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Preparation of instant puran poli premix powder

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Abstract

The effort or basic idea behind in this research project was to make the instant puran poli premix powder to simplify the preparation of puranpoli (i.e. product making and make in it more reliable) and to analyze its nutritional composition. The main ingredients of puranpoli are Bengal gram, Jaggery, Coconut powder, Cardamom. This combination of raw material provides the excellent nutritional value of final product. We made the different samples by different formulation and dry at Sample A-50 °C, Sample B-55 °C, Sample C-60 °C, Sample D-65 °C, and Sample E-70 °C. Then we evaluate the sensory characteristics (texture, color, and flavor) by nine point hedonic scale & protein, fat, minerals content by chemical analysis. In that the most acceptable sample is C Moisture 9.45, Ash 2.68, Protein 30.1, Fat 5.7, Rehydration Ratio (ml) 11 ml. In all treatments, regardless of type of processing, panelists could not detect any "beany" flavors in any of the sample. These unique combinations of cereals and legume fulfill the nutritional requirement of essential amino acids like Methionine and lysine. This mixes save the consuming cooking time in the process. It just requires a minimum handling such as, rehydration in hot / cold water for uses.

Keywords: Bengal gram, jaggery, coconut powder, cardamom, instant puran poli powder

Introduction

Puran Poli is a traditional, most popular Maharashtrian sweet, and is made in each and every house during the festivals. Puran poli is types of Chapati i.e. pan baked bread. Indian stuffed bread with sweet lentil filling. If translate the name from Marathi language to English, puran=stuffing, poli=outer covering. There are many variations in names, in stuffing and method of making it. Puranpoli is called by different names in different languages like Poli in Tamil, Lanchipoli in Malayalam, Bobbatlu in Andhra Pradesh and Verm/wermi in Gujrati, Bakshalu in Telugu, and Holige in Karnataka. Several types of puran polis are made but one made with split Bengal gram is more popular because it is very tasty.

Maharashtrian style: called "Puran poli". Filling is made using chana dal or Bengal gram. Serve with katachi amti (spicy and tangy dal water soup), batatyachi bhaji (dry potato subzi) and rice. The Shelf-life of freshly baked chapatti is 24-36 hrs and becomes unfit for consumption due to development of mold growth, ropiness and texture deterioration depending upon storage conditions.

Instant products

During the last few years there has been growing market for powders which are instantly soluble in cold water. Instant products are becoming more and more popular among consumers these days due to its big range and optimal results obtained after reconstitution. Milk, coffee, cocoa drinks, desserts, soups and health supplements are examples of food stuffs available in the supermarket that suit our modern way of life. India has been the home for ageless culinary art, having a rich heritage of wide variety of traditional preparations.

Reason for development of instant premixes

Premixes are ready made mixtures for making products. They contain all the ingredients and additives that are stable in uniform single mixture and serve a certain purpose in the making the product. This type of mixes is an all-inclusive, dry powder blend that requires the end user simply to add water and used for making products. The basic idea behind the premixes is the simplifying the production i.s product making and make in it more reliable. This type of food known as Convenience foods so this class of foods which imparts convenience to the consumers by way of little or no requirements of major processing or cooking before their consumption. It just requires a minimum handling such as mild heating / warming, rehydration in hot / cold water. These foods are providing better option to the population & some parts of country like Ladakh, Jammu and Kashmir to maintain their nutritional status during harsh winter months.

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Material and Methods

The methodology adopted has been described under the following headings process flow chart for preparation of instant puran poli premix powder.

Processing equipment used

Cooker, Mixer, Cabinet tray dryer, Soxhlet apparatus, Microkjeldhal apparatus, Sieve and oven.

Raw Materials

Fresh and good quality Channa dal, Jaggery, Coconut, Cashew

nut, Cardamom is used according to the formulation.

Many samples were prepared with different formulation and according to the acceptable result following formulation (Table no. 1) for final product was done. In that all ingredients were kept constant and temperature where varies as follow:

1. Jaggery- 200 gm,
2. Cardamom -2 gm
3. Coconut powder - 5 gm
4. Cashew nut powder- 5gm
5. Temperature -50 °C, 55 °C, 60 °C, 65 °C, 70 °C.

Table 1: Formulation of Instant Puran Poli premix (Puran)

Sample no.	Channa dal. (gms)	Jaggery (gms)	Cardamom (gms)	Coconut powder (gms)	Cashew nut powder (gms)	Temperature (°C)
A	300	200	2	5	5	50
B	300	200	2	5	5	55
C	300	200	2	5	5	60
D	300	200	2	5	5	65
E	300	200	2	5	5	70

Preparation of Puran

Flow Sheet for preparation of Puran poli powder

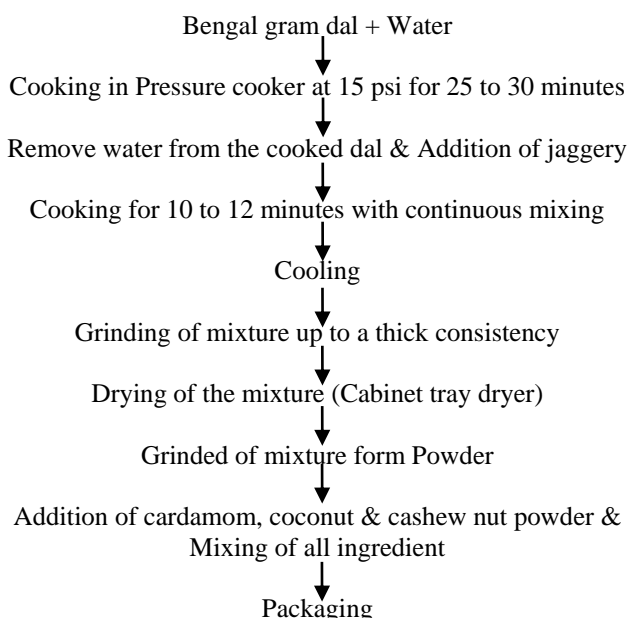


Fig 1: Flow chart preparation of Puran

For preparation of instant puran poli premix take the raw material according to the given formulation (Table No.1). Channa dal is used as a bulk ingredient in that premix.

Drying of Puran by Cabinet tray dryer

Drying of the puran was carried out by using the Cabinet tray dryer. The drying was carried out at temperatures 50 °C for 23 hrs, 55 °C for 19 hrs, 60 °C for 16 hrs, 65 °C for 12 hrs, 70 °C for 8 hrs. After drying of sample grinding was done for making the powder. The results or selection was based on the parameters like product obtained in rehydration ratio, consistency and sensory analysis. In grinded sample all add the rest ingredients Cardamom, Cashew nut and Coconut powder (Table no.1) & Instant puran poli premix powder is ready packed it in HDP pouches and stored in dry place at room temperature.

Results and Discussions

Proximate analysis of raw materials

Proximate analyses of raw materials were done using standard analytical methods. Include estimation of Moisture content, Proteins, Carbohydrates, Fat, Ash content, etc.

1) Bengal gram: - The analysis report of Bengal gram dal represented in Table no. 2 shows that the Bengal gram dal contains 20.8g protein, 5.6g fat, 57.42g carbohydrates And 1 Vita. C. It indicated that legumes has good amount of proteins and carbohydrates.

Table 2: Nutritional value of edible portion per 100g of Bengal gram

Protein/gm	Fat/gm	Carbohydrates/ gm	Vita. C/Mg
20.8	5.6	57.42	1

2) Jaggery: Jaggery is a product of sugarcane. Through the proximate analysis report known the product are rich in important Minerals, Vitamins and Sugars.

Chemical composition of puran poli premix powder

Data in the below table no.4 shows the quality parameters of the instant puran poli premix powder. The chemical composition of final product is changes by the temperature differences.

Sample A (50 °C) Moisture 6.10, Ash 2.62, Protein 20.3, fat 5.3, Rehydration ratio 13 ml. Sample B (55 °C) Moisture 6.6, Ash 2.64, Protein 20.6, Fat 5.5, Rehydration ratio 12 ml. Sample C (60 °C) Moisture 6.9, Ash 2.68, Protein 20.8, fat 5.6, Rehydration ratio 11ml. Sample D (65 °C) Moisture 6.7, Ash 2.63, Protein 20.3, fat 5.2, Rehydration ratio 12 ml. Sample E (70 °C) Moisture6.8, Ash 2.64, Protein 20.1, fat 5, Rehydration ratio 12 ml.

Table 3: Chemical analysis of Instant Puran poli premix powder

Parameter (%)	Samples				
	A (50 °C)	B (55 °C)	C (60 °C)	D (65 °C)	E (70 °C)
Moisture	6.10	6.6	6.9	6.7	6.8
Ash	2.62	2.64	2.68	2.63	2.64
Protein	20.9	20.8	30.1	20.7	20.8
Fat	5.5	5.5	5.7	5.6	5.3
Rehydration ratio (ml)	13	12	11	12	12

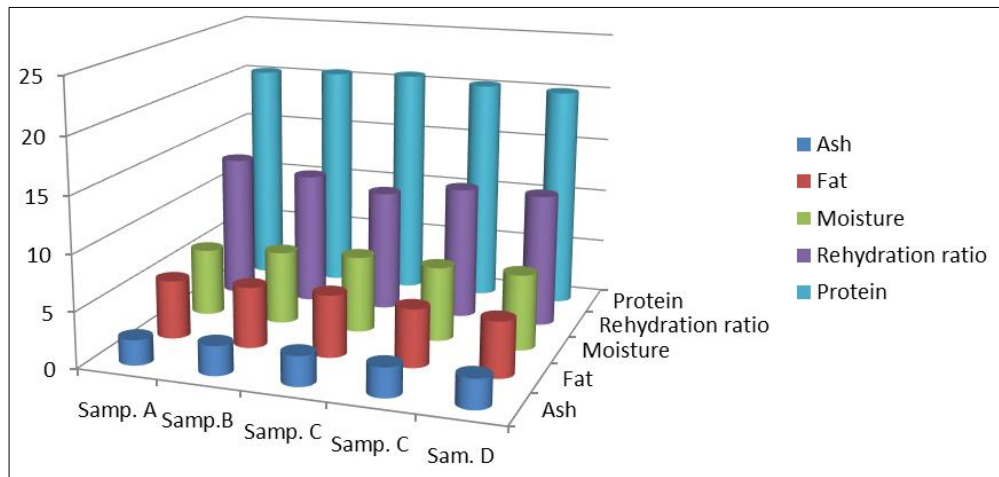


Fig 2: Chemical analysis instant puran poli premix powder

Rehydration ratio of the Puran Poli premix powder

Rehydration of powder is important to achieve the desirable consistency for making a poli. The rehydration ratio of the powder was checked (shown in table no.5.) & it was concluded that 10 g in 11ml of water gave the desired and acceptable consistency.

Table 4: Rehydration ratio of the premix powder

Sr. No.	Premix Powder(g): Drinking water (ml)	Consistency
A	10: 13	Not good
B	10: 12	Not good
C	10: 11	Very Good
D	10: 12	Good
E	10: 12	Good

Table 5: Recovery ratio of puran poli premix powder

Temperature (°C)	Time taken (hrs)	% recovery	Rehydration and appearance
50 °C	23	86%	Poor
55 °C	19	89%	Good
60 °C	16	96%	Very Good
65 °C	12	93%	Good
70 °C	8	92%	Good

Sensory quality of the puran poli premix powder

For the determination of the best sample of puran poli powder was served in front of the panel member for sensory evaluation. It was done on 9 point hedonic scale rating score with respect to color, flavour, consistency, and rehydration. In sensory overall acceptability has been considered. By this rating score sample no C has been found best with scoring of 8 marks from 9 marks in overall acceptability.

Table 6: Sensory evaluation of the puran poli premix powder

Parameters	Maximum score	Samples				
		A (50 °C)	B (55 °C)	C (60 °C)	D (65 °C)	E (70 °C)
Colour	9	5	6	8	7	6
Flavour	9	5	5	7	6	6
Taste	9	5	4	8	7	5
Rehydration	9	6	6	8	8	5
Overall acceptability	9	5	7	8	7	5
Total score	45	26	28	39	35	27

Conclusion

Puran have good nutritional value because it contains Bengal gram, jaggery and spices like cardamom, coconut. So, these unique combinations fulfill the nutritional requirement of

essential amino acids like Methionine and lysine as well as have good nutritive values and were quite rich in carbohydrates accompanied by enough protein, ash, crude fibers, fat, and minerals like calcium and iron.

Drying of puran was done at temperatures namely 50 °C, 55 °C, 60 °C, 65 °C, 70 °C. The dried mixture at given temperature were finely grinded to yield a fine powder. In that sample C dried at 60 °C is very good quality. The obtained powder used for preparation of the puran poli. On the basis of above result the preparation of good quality powder from channa dal and other ingredients.

Puran poli powder was served in front of the panel member for sensory evaluation. It was done on 9 point hedonic scale rating score. By this rating score sample no C has been found best with maximum scoring in overall acceptability.

References

- Alok Jha, Ashok Patel, Ram Ran Bijoy Singh. Physico-chemical properties of instant Kheer mix. Le Lait, 2002.
- Association of official analytical chemist's Official method of analysis: sugar products. (AOAC) Arlington, 1984.
- Daniel, Hopf, Maria. Domestication of Plants in the Old World (third edition), Oxford University Press, 2000.
- Gaurav N Singh. Studies on preparation of instant Halwa powder mix from Sweet potato, 2013
- Jaswant Singh, Solomon S, Dilip Kumar. Indian Institute of Sugarcane Research, Lucknow, India. Pankaj K Arya, Satish Kumar, U. K. Jaiswal. Tribology and Combustion Division, CSIR- Indian Institute of Petroleum, Dehradun. 2013.
- Jukanti AK, Gaur PM, Gowda CL, Chibbar RN. "Nutritional quality and health benefits of chickpea (*Cicer arietinum* L.): a review, 2012.
- Lasenor emul. Lecithin for instant powder, S.L. Technical Paper. November 2012
- Nitin G. Suradkar¹, Deepika Kamble³ and Varsha Fulpagar. Nutritional characterization of Indian traditional Puranpoli. Department of Food Science and Technology, CFT, VNMKV, Parbhani, Maharashtra, 2014.
- Nurasyikin Binti Abu Khori. Preparation of instant soup powder by using local fish and corn grit, 2013.
- Pandey RK, Manimehalai N. Production of Instant Tea Powder by Spray Drying. International Journal of Agriculture and Food Science Technology. Department of food Processing, SRM University Kattankulathur,

Kanchipuram, Chennai, India. 2014; 5(3):197-202. ISSN 2249-3050.

11. Ruma Saha, Vimla Dunkwal. Development and Nutritional Analysis of Value Added Spread Instant Mix. Department of Food and Nutrition, College of Home Science, RAU, Bikaner, Rajasthan, 2009.
12. Satyanarayana Rao, NM TS, Kaverappa T, Hemaprakash Reddy, Jayaraman KS. Development of ready-to-eat traditional Indian sweet dishes based on jaggery and coconut, Journal of Food Science and Technology, 1990.
13. Sheila J, Sharma N. A World list of Chickpea and Pigeonpea Pathogens. International Crops Research Institute for Semi-Arid Tropics, ICRISAT, 1996.
14. Vijayalakshmi Inamdar, Bharati V, Ramanaiik. Nutrient composition of traditional festival foods of north Karnataka, J Hum. Ecol, 2005.
15. Washington, DC. Official Methods of Analysis. 15th Ed. Association of official Analytical Chemists, 1984.