



Sensory Evaluation Of Dry Moringa Chutney Powder

Anandhu A¹, Dr. Priyanka shankar²

¹MSc. Student, Department of Food and Nutrition, School of Home Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India

²Assistant Professor, Department of Food and Nutrition, School of Home Science, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India

ABSTRACT

This study was conducted to determine sensory evaluation of the dry moringa chutney powder. Protein, fat and minerals are important in our diet. Moringa leaf powder is a nutrient-dense superfood that offers a wide range of health benefits. Packed with vitamins, minerals, and antioxidants, it can be a valuable addition to your diet. The high levels of antioxidants in moringa leaf powder help strengthen the immune system and protect against oxidative stress, reducing the risk of chronic diseases. The studies suggest that moringa leaf powder has anti-inflammatory properties, which can help alleviate symptoms of inflammation related conditions like arthritis. Moringa powder can be consumed in many ways; they can cook with rice and mix it into smoothies, sprinkle it on salads or soups, or even add it to your favourite recipes. Moringa leaf powder contains fiber that aids in digestion and promotes a healthy gut. It may also have antimicrobial properties that can help fight against harmful bacteria in the digestive system. moringa leaf powder is a versatile and nutrient-packed superfood that offers numerous health benefits. Incorporating it into your diet can support overall well-being and promote a healthy lifestyle.

Keywords: Moringa, Moringa powder, Moringa chutney powder, Sensory evaluation, Hedonic scale

1. INTRODUCTION

Moringa leaves have been traditionally used in Ayurvedic medicine for their potential health benefits. It helps to manage blood sugar levels and lower cholesterol. It is a powerful plant that offers a wide range of health benefits. Moringa is rich in variety of essential phytochemicals present in its leaves, pods and seeds. It is also rich in phytosterols like stigma sterols, sitosterols and kampesterols which are precursors for hormones. The fresh moringa leaves contains 12.5 gm of carbohydrates, 0.5gm of fiber. 0.05- 0.06 mg of vitamin B. Whereas dried leave has 41.2% of carbohydrates 30.3% of crude protein 12.5% fiber and mineral contents: 3.65% of calcium, 0.3% of phosphorous, 1.5% of potassium 13.03 mg of zinc, 490 mg iron, 86.8 mg manganese and 2.02% of vitamin B. In moringa, every component of the plant has a remarkable spectrum of functional and nutraceutical qualities, making it a versatile source of biomaterials for use in food and related applications. Throughout the Indian subcontinent, this plant's leaves, blossoms, and fruits are utilized to prepare a variety of delicious dishes. Due to the high nutritional value of its edible sections, this plant is becoming more and more well-known as a vital food source in the fight against protein energy malnutrition, a condition that is prevalent in the majority of the world's developing and underdeveloped nations. The most extensively grown species in a monogeneric family is *Moringa oleifera*. The sub-Himalayan regions of Afghanistan, Bangladesh, Pakistan, and India are home to the natural moringa plant. The nutritional qualities make it a valuable food supplement, particularly for those marginalized communities. It is beneficial for both humans and animals, as well as for usage in a variety of industrial applications. It contains acetone, which may be made into a herbal formulation that works well as a bioagent to prevent malaria. In addition, moringa is a significant source of natural antioxidants. It is also being a significant element in Indian cooking as well as a significant medicinal herb in India. It contains high quantities of iron, calcium, phosphorus, copper, ascorbic acid, estrogenic compounds, betasitosterol, vitamins A, B, and C, alphetocopherol, and protein, beta-carotene, riboflavin, pyridoxine, nicotinic acid, and, in particular, important amino acids including lysine, cystine, tryptophan, and methionine. vitamin A, vitamin C, which compacts a variety of ailments like the flu and colds. It serves as a barrier against numerous illnesses, including diarrhea, heart problems, skin conditions, and eye issues. The calcium present in, which strengthens teeth and bones and helps fend off osteoporosis; Potassium is necessary for the brain and nerves to operate.

2. MATERIALS AND METHODS

2.1 Sources of experimental materials

The study was to develop dry moringa chutney powder and this was carried out in the Department of Food and Nutrition, School of Home Science, Babasaheb Bhimrao Ambedkar University, Lucknow-226025, Uttar Pradesh, India. Moringa, urad dal, channab dal, peanuts, garlic, red chilli, tamarind, turmeric were collected from the hyper market of Lucknow area.

2.2 Preparation of the product

Moringa, *Moringa oleifera* Lam. Moringaceae, is a highly valued plant which is cultivated in the tropics and subtropic areas. It is native to parts of Africa, Asia, and many other countries around the world. It grows in humid tropics and hot dry lands and can survive in less fertile soils. Moringa is popular since it is packed with essential nutrients, high level of vitamins, minerals and antioxidants.

2.3 Equipment Required

1. Grinder
2. Siever
3. Weighing balance
4. Utensils: bowls, plates and glass jar.
5. Frying pan
6. Spatula

2.4 Ingredients Specification

Ingredients	Weight (g)
Moringa leaves	42.5g
Channa dal	5g
Urad dal	10g
Peanuts	10g
Garlic	5g
Red chilli	5g
Tamarind	5g
Turmeric	2.5g
oil	5g
Salt	5g

2.5 Procedure

- Washing and drying the moringa leaves and garlic and powdered them using blender.
- Heat oil in a pan and add urad dal, chana dal, and peanuts and roast them at 55-60°C atleast for 30 min.
- Add red chillies and roast them few more min. at the same temperature.
- Let it cool down at room temperature.

- After cooling down, all the ingredients are grinded into powder
- The prepared product to a moisture free air tight container and label it.

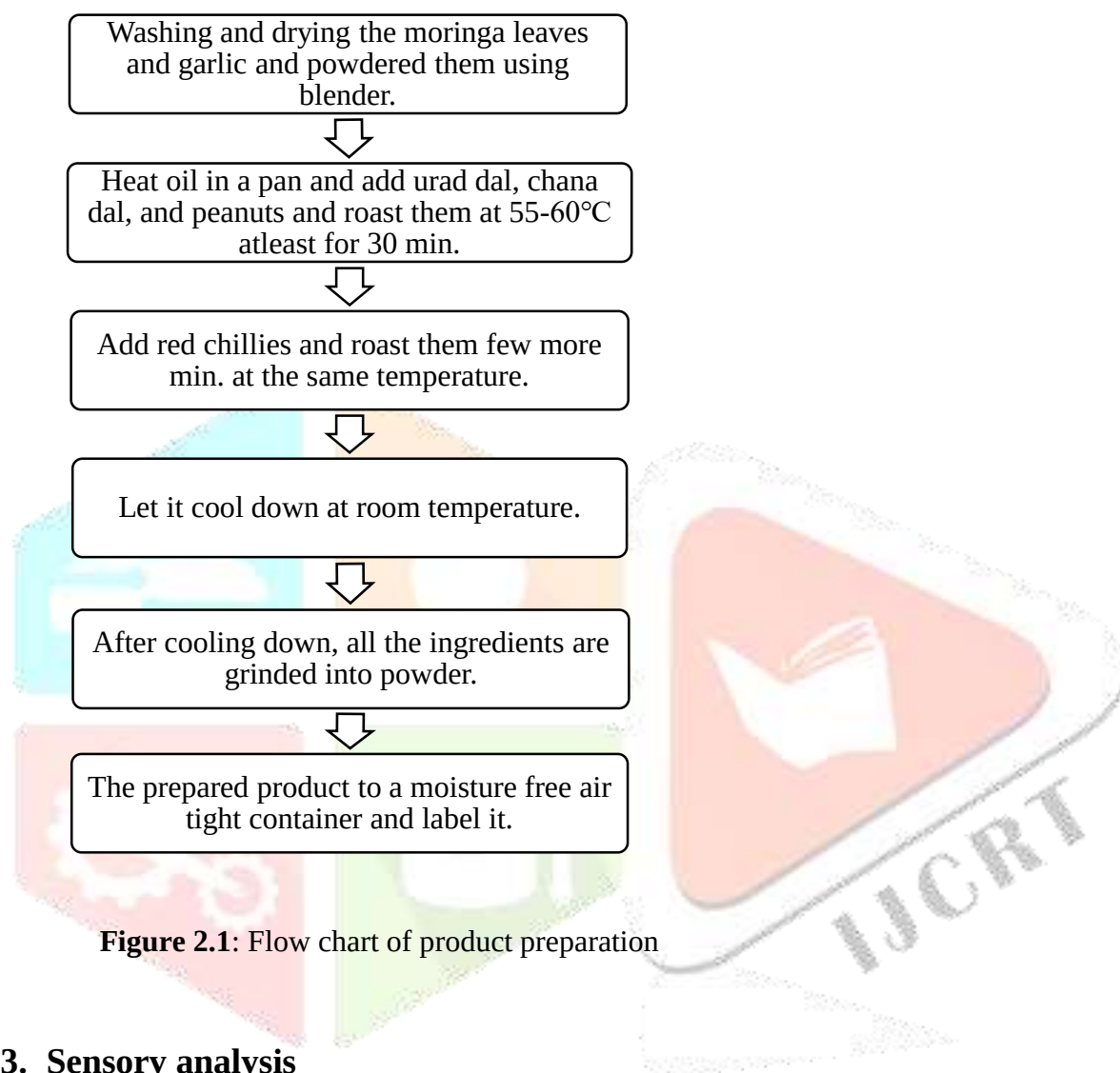


Figure 2.1: Flow chart of product preparation

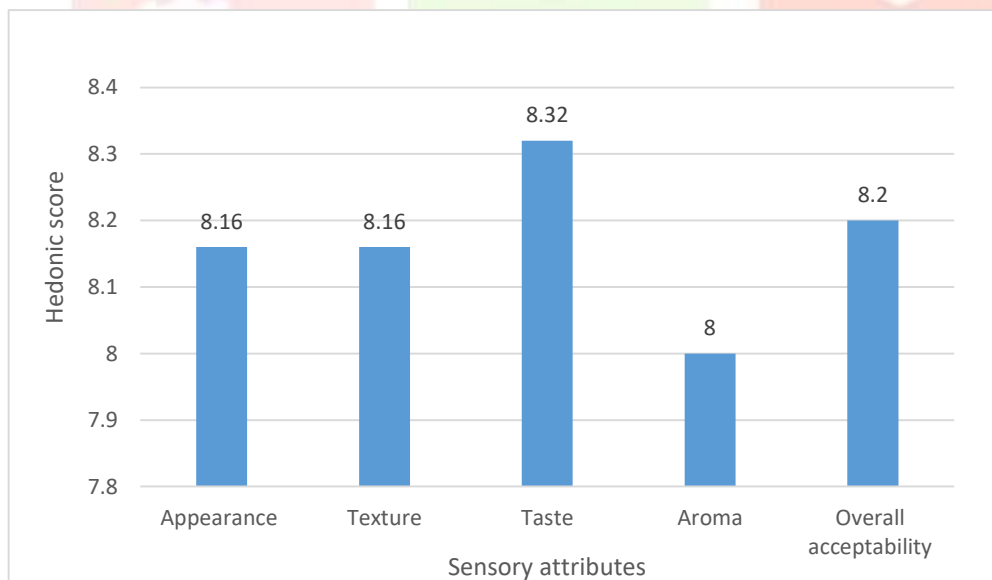
3. Sensory analysis

Sensory analysis is a scientific discipline that applies principles of experimental design and statistical analysis to the use of human senses for the purpose of evaluating consumer products. Sensory evaluation of a sample is perceived by sense of sight, smell, taste, touch and hearing. The discipline requires panels of human assess on whom the products are tested, and record according to the responses made by them. In this present study the prepared product was evaluated for their organoleptic attributes such as appearance, taste, flavor, aroma and texture. The acceptance by the semi-trained panel comprising of 25 panelists drawn from staff, students and friends from BBAU. The 9- point hedonic scale was used to ask panelists to record their observations.

4. RESULT AND DISCUSSION

The sensory evaluation was done to map out the acceptance of the product. The prepared product evaluated for the sensory characteristics such as appearance, texture, taste, aroma and overall acceptability using hedonic scale. The hedonic scale has the score starting from 0 (dislike extremely) to 9 (like extremely). Sensory analysis was conducted by 25 panalist including semi-trained and untrained. The results were listed out and graph was plotted to better access of evaluation. The score obtained after conducting the sensory evaluation were concluded that the overall acceptability of prepared product was 8.2 followed by appearance, texture, taste, aroma was 8.16, 8.16, 8.32, 8 respectively and over all the product was in acceptable level.

Attribute	Scores
Appearance	8.16
Texture	8.16
Taste	8.32
Aroma	8
Overall acceptability	8.2



CONCLUSION

The sensory evaluation of the product was done and the results were analyzed. It was concluded that out of 9 the sensory attributes such as appearance of the product was 8.16, texture 8.16, taste 8.32, aroma 8 and overall acceptability of the product was 8.2. Thus the product was acceptable to the consumer level and it's a marketable novel product.

References

1. Ahmad Faizal Abdull Razis, M. D. (2014). Healyh Benifits of Moringa oleifera. Asian Spesific Journal of Cancer Prevention.
2. Abraham . Sengev, J. O. (2013). Effect of Moringa oleifera Leaf Powder Supplementation on Some Quality Characteristics of Wheat Bread. Gboko, Nigeria: Food and Nutrition Sciences
3. Surbhi Sahay, U. Y. (2017). Potential of Moringa oleifera as a functional food ingredient: A review. Delhi, India: International Journal of Food Science and Nutrition.
4. El-Gammal, R. E., & ElShehawy, G. A. (2016). Effect of Moringa Leaves Powder (Moringa oleifera) on Some Chemical and Physical Properties of Pan Bread. Mansoura, Egypt: J. Food and Dairy Sci., Mansoura Univ.
5. FARHATH KHANUM, K. R. (2010). Anticarcinogenic Properties of Garlic. Critical Reviews in Food Science and Nutrition.
6. Gebreyohannes, G. G. (2013). Medicinal values of garlic: A review. Gondar, Ethiopia: International Journal of Medicine.
7. Hartman, S. J. (2015). Review of the Safety and Efficacy of Moringa. USA: PHYTOTHERAPY RESEARCH.
8. Hussain, M. I. (2021). Sustainable Agriculture. Aix-en-Provence, France: Eric Lichtfouse.
9. Idohou-Dossou, N. (2011). IMPACT OF DAILY CONSUMPTION OF MORINGA (MORINGA OLEIFERA) DRY LEAF POWDER ON IRON STATUS OF SENEGALESE LACTATING WOMEN. Fann Dakar, Sénégal: African Scholerly Science.
10. Iorfa A. Sengev, J. O. (2013). Effect of Moringa oleifera Leaf Powder Supplementation on Some Quality. Gboko, Nigeria: Food and Nutrition Sciences.