

Development and Sensory Evaluation of Value Added Product from Mahua(*Madhuca longifolia*) Flower.

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ABSTRACT

Mahua (Madhuca longifolia) is the plant which is losing its importance as food due to urbanization now days. It is the a major source of nutrients including protein, vitamins, carbs, minerals, enzymes, and organic acids. With the aim of increasing the technologies and changing food preferences for Mahua plant, it is currently used most frequently to make liquor because of its high sugar content. Other products also like- jam, jelly, bakery and confectionary product by using mahua concentrate as a liquid sweetener. The study was conducted in Babasaheb Bhimrao Ambedkar University Lucknow's Department of Food and Nutrition. With the aim to Developed Value added product incorporated with Dried Mahua (*Madhuca longifolia*) flower powder, the product were developed with peanut with the addition of jaggery. The developed products were further tested for its sensory properties by the panelists. Sensory evaluation of developed product was done using 9-point hedonic scale, the range of the scale was 9 (Like extremely) to 1 (Dislike extremely). The Attributes to be considered were of products is taste, Appearance, Texture and Overall acceptability.

Keyword- Attributes, Panelists, Sensory, *Madhuca longifolia*,

INTRODUCTION - *Madhuca longifolia* (also known as Mahua; Sapotaceae). It is a deciduous tree that is widely found in Jharkhand, Chhattisgarh, Madhya Pradesh, Orissa, and Bihar, as well as in some areas of Gujarat, Andhra Pradesh, and Rajasthan. And Tamil Nadu in India. It goes by several names in local vernacular, including Mahua or Mowarh in the north, Mahul in Orissa, and Illipi in the south. Madhuka, Madhupuspa, Madhudruma, Madhusakha, and Gudapuspa are Sanskrit names for Mahua (Ranjana *et al.* 2018). This is used as a grain replacement by tribal people. Mahua is the Indian Butter-nut Tree, it is economically significant to tribal populations. Due to the many uses of its various components, including flowers, fruits, seeds, and lumber. It serves as a source of income and employment creation For the most vulnerable members of society.

The plant's edible flowers have fleshy corollas and are a good source of natural sugars as well as a significant amount of vitamins and minerals (Sinha *et al.* 2017). It acts as a sweetening substance used in a variety of regional cuisine dishes, including halwa, kheer, puri, and burfi (Patel, 2008). The *M. indica* plant has an enormous number of phytochemicals that the indigenous people employ for ethnomedicine. The flowers are used in the ayurveda medical system for their aphrodisiac, astringent, demulcent, and cooling effects. In addition to being used as a general tonic, they are also used to treat pharyngitis, bronchitis, acute and chronic tonsillitis, and helminths

The flowers are also known to contain anti-inflammatory and anti-microbial qualities. The tribe people must sell their items right away, either with little or no value addition. In many parts of the nation, Mahua grows are only insignificantly eaten raw, boiled, or fried. Mahua flowers, which are now solely good for making liquor as well as

different types of food products. As a result, although being a rich source of nutrients. Mahua's work and income prospects

A portion of these flowers may be diverted for food processing, which would not only increase the number of collectors but also provide an inexpensive source of nourishment. The aim of this research is to identify the factors that contribute to the underutilization of Mahua flowers and potential solutions for increasing flower utilisation through value-addition and processing.

The flowers have significant potential to substitute sugar in a variety of culinary items and are quite healthy.

MATERIALS AND METHODS- The present research study was conducted at school for Home Science , Department of Food and Nutrition, Bbabasaheb Bhimrao Ambedkar University, Lucknow.

Materials- In this study product was made using raw materials such as Dried mahua flower , Peanut, as major ingredient and minor was jaggery.

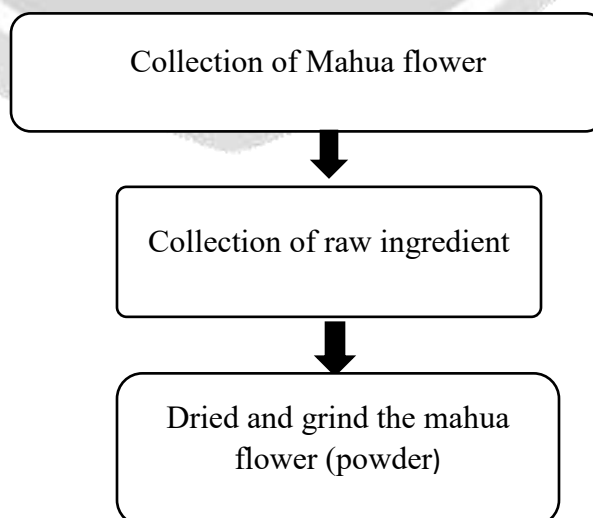
Collection of Raw Materials-The raw ingredient such as Mahua flower powder were collected from the local market of Raipur, chhatishghar. They were washed, dried, ground into a powder, and then sealed in an airtight container. The other ingredient such as peanut, jaggery and ghee was bought from local market of near BBAU university lucknow. The peanut was cleaned , rosted and grind separately. And the jaggery was subjected to made syrup.

Methods-

Formation of Product - Different ingredient with their levels.(per serving 100gm)

Ingredients	Per (gm)
Dried mahua flower powder	25g
Roasted and grind peanut	25gm
Jaggery	50gm

Flow Diagram for the Manufacturing of the product-



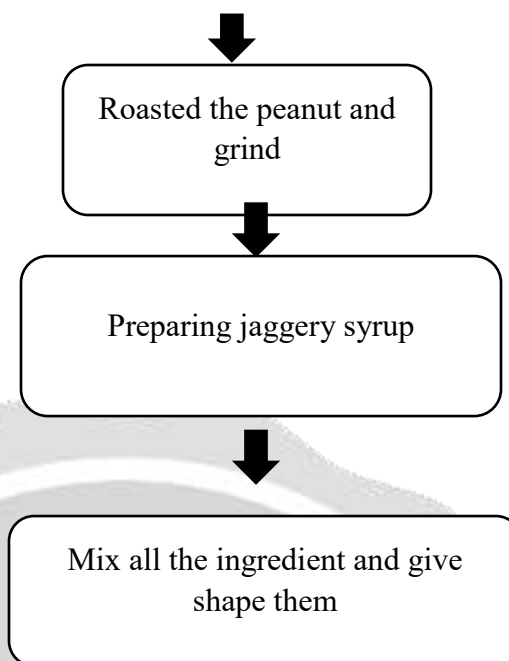


Fig. 1. Flow diagram for manufacturing of product

Sensory Score Card-of Value added product from mahua flower powder- With a group of qualified panellists, sensory evaluation of product was carried out. The sensory parameters were Appearance & taste, Texture and overall acceptability. which were scored on the basis of 9-point hedonic scale, where 9- like extremely, 8- like very much, 7- like moderately, 6- like slightly, 5- neither like nor dislike, 4- dislike slightly, 3-dislike moderately, 2-dislike very much and 1- dislike extremely.

RESULT AND DISCUSSION-

Profiling of Value added product from Mahua flower powder -The Experiment Design of preparation of value added product from dried mahua flower powder with using of peanut and jaggery, were conducted in a Food Science and technology laboratory. The sensory score was based on 9- point hedonic scale. Optimised parameters were used to make the final product from Dried mahua flower powder. Physico-chemical characteristics, vitamin and mineral profile, and microbiological testing were performed on the manufactured product.

Sensory evaluation by the panelists acceptability of Value added product made from dried mahua flower powder - To conclude the acceptability by panelists on sensory attributes like taste/flavour, appearance, texture, Texture and overall acceptance.

- **Appearance-** The average score of appearance of Mahua flower enriched based product which made by using the peanut. was 8.8 respectively. The higher score of the product must be due to the crunchiness.
- **Texture-** The products received average rating for their texture was 7.58 .it must be due to its coarse texture.
- **Taste** - The average score of flavour/ taste for product was 7.20 for peanut base. the peanut was not bitter. hence it received a higher score by the panel members.
- **Overall acceptability-** The average acceptability of mahua based product made from using the peanut and jaggery are 7 respectively. This is due to the crunchiness

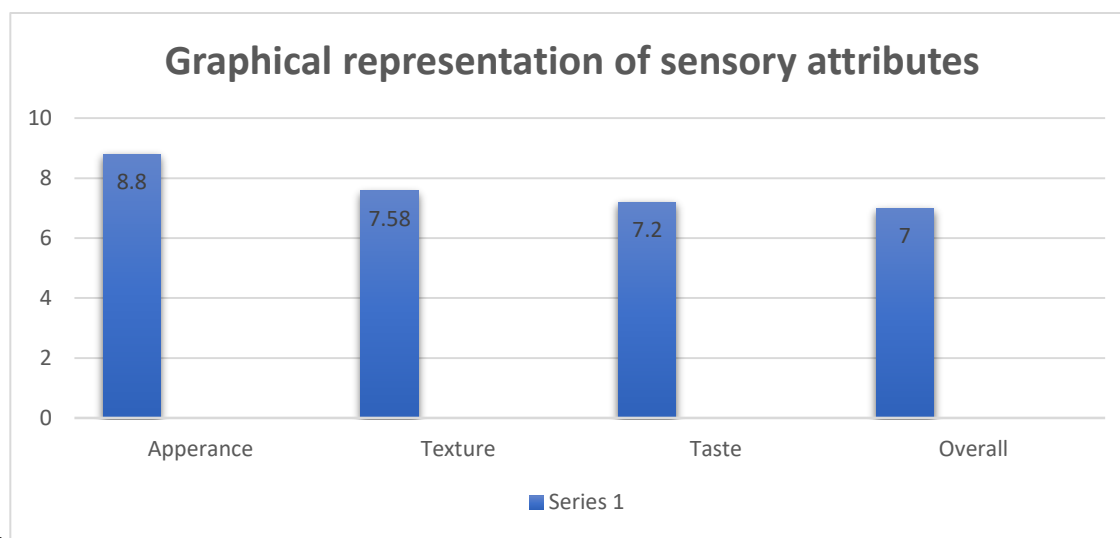


Fig.2: Graph comparing the sensory attributes of Mahua enriched product

Attributes	Score
Appearance	8.8
Texture	7.58
Taste/ Flavour	7.2
Overall acceptance	7

Table No2 :Average scores given by community for Mahua peanut stick

CONCLUSION- The present study was investigated resulted in the development of value added product from the dried mahua flower powder with highly acceptable quality attributes. In view of the findings of the present study, it may be concluded that the peanut based mahua product under the study showed a nutritional profile which is highly suitable for any age group of peoples. Also in terms of organoleptic or sensory quality, the product was found to be highly acceptable. It was also observed that nutritional quality of freshly prepared dried mahua powder. The developed value added product from mahua flower has high amount of minerals.

FUTURE SCOPE-

1. Study about the different drying techniques of mahua flower.
2. Phyto-chemical and Nutritional studies of prepared products from mahua flower and other parts.
3. Study about the sensory evolution of different types of food product prepare by using the mahua flower or mahua flower powder.

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