



Sensory evaluation of guava leaves powder incorporated chutney powder

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Abstract— Value added product, the shade dried tender guava leaves incorporated chutney powder was prepared and this instant product containing dried leaves powder was presented to a panel of 21 semi-trained participants aged 20 to 27 years for sensory evaluation. The samples were assessed for colour, flavor, appearance, texture, taste and overall acceptability with ratings based on a 9-point hedonic scale. Different variations of guava leaves chutney powder were created by incorporating dried guava leaves at levels of 5, 10 and 15 per cent. The chutney powder with 10 per cent leaves powder incorporation achieved the highest scores in taste (8.02) and overall acceptability (8.09) compared to other variations. Mean sensory scores of other attributes in T2 recorded were color (7.87), appearance (8.08), flavor (8.13) and texture (7.82) respectively.



Keywords— Chutney powder, Guava leaves, Sensory evaluation, Value added

I. INTRODUCTION

The use of health-promoting substances in regular cooking has increased as a result of the growing interest in functional foods. Guava leaves are notable among these due to their remarkable nutritional profile and medicinal qualities. In order to improve both flavor and nutritional value, this study investigates the sensory evaluation of a chutney powder enhanced with guava leaf powder. Traditional chutney recipes can have a unique earthy flavor with the use of guava leaves, which also have therapeutic and antioxidant properties. The effort of the research is to encourage healthy eating habits and sustainable culinary innovation by incorporating this underutilized botanical material into a well-known meal format. However, consumer acceptability is a key factor in the success of such innovation. In order to assess a product's appeal in terms of taste, scent, texture, and general satisfaction, sensory evaluation is essential. This study highlights how important it is to evaluate these sensory qualities in order to make sure that the culinary experience is not jeopardized by the health-focused

improvement. By bridging the gap between innovation and consumer preferences, the sensory evaluation further evaluates the chutney powder's acceptability and palatability.

Thus, chutney powder incorporated with guava leaves offers significant nutritional and health benefits, making it an innovative addition to culinary practices. The unique flavor of guava leaves adds a distinctive taste elevating traditional chutney recipes. By integrating guava leaves into chutney powder not only are we utilizing a valuable resource but we are also promoting healthier eating habits and encouraging the use of underexplored ingredients in modern cuisine.

II. MATERIALS AND METHODS

Different variations of guava leaves chutney powder were created by incorporating dried guava leaves at levels of 5, 10 and 15 per cent and for control peanut chutney powder was used. All the samples were analyzed for sensory characteristics by a panel of 21 semi trained members. A

9-point hedonic scale [1] was used for sensory evaluation. Shade dried tender guava leaves powder incorporated chutney powder mix was evaluated for their appearance, colour, texture/consistency, taste, flavor and overall acceptability.

III. RESULTS AND DISCUSSION

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Table 1 shows that the appearance scores ranged from 7.43 to 8.56, colour from 7.50 to 8.60, texture from 7.63 to 8.47, flavor from 7.37 to 8.64, taste from 7.26 to 8.53 and overall acceptability from 7.45 to 8.56. Among the variations, the chutney powder with 10 per cent dried guava leaves (T2) received the highest sensory scores in taste and over acceptability compared to other variations i.e., taste (8.02) and overall acceptability (8.09). Whereas T1 had scored good mean scores in other sensory attributes like colour, flavor, appearance and texture compared to other variation due to less amount of incorporation of tender guava leaves powder. Based on taste and overall acceptability T2 had considered as best accepted one and it recorded mean scores in appearance (8.08), colour (7.87), texture (7.82) and flavor (8.13) respectively. The differences in sensory attributes such as appearance, colour, flavour, taste, texture and overall acceptability

across the variations were statistically significant at the 5 per cent level.

Among the variations, T2 (10 per cent) was the most accepted due to its pleasing flavor, taste, colour, and texture. Similar results were reported by Deepak (2016) [2], who studied chutney powder prepared with tamarind leaves powder at different levels (20, 30 and 40 per cent) compared to a control (without tamarind leaves). The control chutney powder received the highest overall acceptability score (8.1). However, the chutney powder with 20 per cent tamarind leaves powder was the best accepted among the variations (7.6), with high scores for overall acceptability, while the least preferred was the chutney powder with 40 per cent tamarind leaves, scoring 7.35. Since tamarind leaves lack the astringency of guava leaves, the 20 per cent incorporation of tamarind leaves was more acceptable, while for guava leaves, 10 per cent was the optimal level for acceptance. In ready-to-serve products, the maximum allowable incorporation of guava leaves is 10 percent. Exceeding this limit is unacceptable to panel members due to changes in colour and an increase in astringency which is attributed to the tannin content in the leaves. To address this issue additional spices can be added to enhance the flavor and mask the taste of the guava leaves, improving the overall acceptability of the product.

Table 1: Sensory evaluation scores of guava leaves incorporated chutney powder

Treatments	Colour	Appearance	Flavour	Taste	Texture	Overall Acceptability
Control	8.60 ± 0.58	8.56 ± 0.50	8.64 ± 0.66	8.53 ± 0.65	8.47 ± 0.73	8.56 ± 0.52
T1	8.17 ± 0.77	8.34 ± 0.88	8.21 ± 0.67	7.82 ± 0.57	8.00 ± 0.68	8.02 ± 0.43
T2	7.87 ± 0.81	8.08 ± 0.73	8.13 ± 0.84	8.02 ± 1.00	7.82 ± 0.71	8.09 ± 0.82
T3	7.50 ± 0.89	7.43 ± 0.86	7.37 ± 1.00	7.26 ± 1.05	7.63 ± 0.82	7.45 ± 0.85
F value	*	*	*	*	*	*
SEm±	0.16	0.16	0.16	0.17	0.15	0.16
CD @ 5%	0.45	0.45	0.47	0.49	0.43	0.41

Note-Control: peanut chutney powder, T1: 5 per cent guava leaves incorporated chutney powder-1, T2: 10 per cent guava leaves incorporated chutney powder-2, T3: 15 per cent guava leaves incorporated chutney powder-3, * Significant at 5 per cent, CD: critical difference at 5 per cent

IV. CONCLUSION

The study showed the potential of incorporating shade-dried tender guava leaves into the chutney powder making it a value-added product. These results indicate that guava leaf powder could be a good choice for customers who are health-conscious because it can be included in chutney compositions to increase nutritional content without sacrificing sensory quality.

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