Short Communication

Assessment of sensory qualities of millet-based idlies

MEKALA MOUNIKA

Foods and Nutrition Department, PG&RC
Professor Jayashankar Telangana State Agricultural University
Rajendranagar 500030 Telangana, India
Email for correspondence: mounikejiya@gmail.com

 Received: 10.02.2022/Accepted: 29.03.2022

ABSTRACT

The present study was undertaken to develop and conduct sensory evaluation of millet-based idlies. The sensory quality assessment was done using 5-point scale. The total score of sensory parameters for millet idly showed that sorghum idly had the least score of 24.4 which was significantly lower than any other millet idly and ranged up to 34.4 of rice (control) idly. Pearl millet and proso millet had no significant difference but scored lower than finger millet and little millet.

Keywords: Millet; idly; sensory quality; score

INTRODUCTION

Millets have been Indian's native miracle grains comprising a rich variety ranging from more commonly known finger millet and sorghum millet to less common varieties such as barnyard millet, kodo millet, proso millet or little millet. They form staple food and are integral part of local food cultures. Millets have been looked down by the modern urban consumers as coarse grains. Urban diets increasingly consist of refined grains, sugar and oil and are lacking in fibre and essential nutrients. The health consequences are devastating and include obesity, diabetes, digestive disorders, cancer etc.

MATERIAL and METHODS

The standardized millet idly preparations developed from finger millet, pearl millet, foxtail millet, sorghum, little millet, proso millet and control (rice/ wheat) were evaluated for sensory characteristics by 21 taste panel judges which included professors and post-graduate students from the Department of Foods and Nutrition, Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Telangana. The standard millet idlies were tested for sensory qualities like appearance, colour, flavour, texture, sponginess, taste and overall acceptability on a five-point scale.

RESULTS and DISCUSSION

The data given in Table 1 show that the appearance scores ranged from 3.5 to 4.2 among different idlies in comparison to rice (control) idly (5.0). Finger millet, proso millet and sorghum were at par in appearance with scores of 3.8, 3.5 and 3.6 respectively. The scores for colour ranged from 3.3 to 4.6 against 5.0 that of rice (control). Pearl millet, proso millet and sorghum millet were at par with scores of 3.3, 3.6 and 3.5 respectively. The score of foxtail millet (4.6) was at par with control (5.0). The flavour of foxtail millet was similar to control (rice) with sensory score of 5.0 each. Pearl millet, little millet and proso millet were statistically at par for this trait with scores of 4.0, 4.3 and 4.0 respectively. In case of texture, foxtail and sorghum were at par with 3.3 score each but were significantly lower from finger millet (3.8), pearl millet (4.0) and proso millet (3.7) which were at par but scored lower to little millet (4.4). Finger millet (4.0) and pearl millet (4.0) score was at par with control (4.4) for sponginess. Finger millet (4.8) was similar to control (5.0) in case of taste and superior to others. The acceptability was higher for finger millet (4.7), foxtail millet (5.0) which were at par with control (rice) (5.0). In overall, the highest score was achieved by control (rice) (34.4) followed by foxtail millet (30.6), little millet (29.0) and finger millet (28.4).

Table 1. Scores of sensory evaluation of millet idly

Millet idly	Appearance	Colour	Flavour	Texture	Sponginess	Taste	Acceptability	Total
Finger millet	3.8 ± 0.42^{ab}	4.1 ± 0.57^{c}	3.5 ± 0.53^{b}	3.8 ± 0.42^{b}	4.0 ± 0.00^{bc}	4.8 ± 0.42^{cd}	4.7 ± 0.48^{bc}	28.4 ± 2.41^{cd}
Foxtail millet	4.0 ± 0.00^{bc}	4.6 ± 0.52^{d}	5.0 ± 0.00^{d}	3.3 ± 0.48^{a}	3.8 ± 0.63^{a}	4.4 ± 0.52^{b}	5.0 ± 0.00^{c}	30.6 ± 1.58^{e}
Pearl millet	4.0 ± 0.00^{bc}	3.3 ± 0.48^{a}	4.0 ± 0.00^{c}	4.0 ± 0.00^{b}	4.0 ± 0.00^{bc}	4.0 ± 0.00^{a}	4.0 ± 0.00^{a}	26.6 ± 0.84^{b}
Little millet	4.2 ± 0.79^{c}	3.8 ± 0.42^{bc}	4.3 ± 0.67^{c}	4.4 ± 0.52^{c}	3.6 ± 0.52^{ab}	4.5 ± 0.53^{bc}	4.6 ± 0.52^{b}	29.0 ± 2.36^{d}
Proso millet	3.5 ± 0.53^{a}	3.6 ± 0.52^{ab}	4.0 ± 0.00^{c}	3.7 ± 0.48^{b}	3.6 ± 0.52^{ab}	4.4 ± 0.52^{b}	3.8 ± 0.42^{a}	27.3 ± 1.89^{bc}
Sorghum	3.6 ± 0.52^{a}	3.5 ± 0.53^{ab}	3.1 ± 0.74^{a}	3.3 ± 0.48^{a}	3.4 ± 0.52^{ab}	3.7 ± 0.48^{a}	3.8 ± 0.42^{a}	24.4 ± 1.84^{a}
Rice	5.0 ± 0.00^{d}	5.0 ± 0.00^{d}	5.0 ± 0.00^{d}	5.0 ± 0.00^{d}	4.4 ± 0.52^{c}	5.0 ± 0.00^{d}	5.0 ± 0.00^{c}	34.4 ± 0.52^{f}
$CD_{0.05}$	0.39	0.42	0.38	0.36	0.41	0.37	0.31	1.58

Figures are the mean ± SD of scores on a 5-point scale; Figures in a column with different superscripts differ significantly at 5% LoS

According to Premavalli et al (2003), ragi-based sweetened convenience mixes added with beaten rice improved the colour but increased the rate of lipid oxidation while incorporation of coconut powder lowered the lipid oxidation. Texture scores were low among millets which were not dehulled before processing into semolina indicating that millets with intact pericarp gave a rough texture compared to dehulled millets.

Similar results were reported by Begum et al (2003) and Devaraju et al (2003) for pasta and papads.

CONCLUSION

Sorghum, proso millet and pearl millet idlies did not show significant variation but were relatively better than other millets along with rice (control) idly. Acceptance of millets as health foods has given them better acceptability scores compared to the other parameters.

REFERENCES

Begum, MJ, Vijayakumari J, Shamshad Begum S and Anupama P 2003. Sensory quality and storage quality of finger millet Papad- a conventional dietary adjunct. Paper Presented in the 5th International Food Convention, 5-8 December 2003, Mysore, Karnataka, India.

Devaraju B, Mushtari Begum J, Shamshad Begum S and Vidya K 2003. Nutritional quality, sensory attributes and storage study of finger millet (*Eleusine coracana*) composite flour pasta. Paper Presented in the 5th International Food Convention, 5-8 December 2003, Mysore, Karnataka, India.

Premavalli KS, Majumdar TK, Madhura CV and Bawa AS 2003. Development of traditional products. V. Ragi-based convenience mixes. Journal of Food Science and Technology **40(4):** 361-365.