

An investigation on the sensory quality parameters of cookies incorporated with coconut testa flour

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Coconut testa is an underutilized by-product generated from coconut industries. It has a potential nutritional value and various health benefits due to the presence of functional and nutraceutical compounds in it. However, coconut testa is underutilized as animal feed or wasted with no added value. Therefore, the researchers focus on how it could be incorporated into food preparations that would benefit the wider society. Hence, this study focused on developing a coconut testa-based flour and studying the possibility of using it as a food ingredient, particularly for the bakery industry. A good quality coconut testa was selected and sliced into small pieces. The slices were then dehydrated for 25 minutes at 160°C and ground into a fine powder. The quality of the cookies developed from the blends of wheat flour: coconut testa flour at five different ratios such as 100:0, 75:25, 65:35, 55:45, and 45:55 % respectively, were investigated to evaluate the sensory properties of cookies including the characteristics such as texture, color, odor, appearance, taste, mouthfeel, and overall acceptability. The sensory evaluation was conducted with 60 untrained panelists who scored against various quality attributes on a 7-point Hedonic scale to determine consumer preference. The data generated were statistically analyzed with SPSS (version 25). The results obtained revealed that a significant difference ($p < 0.05$) was observed among different treatments in terms of all sensory quality parameters except odor. Score values for the color of cookies tended to increase due to brown color development caused by higher amounts of coconut testa flour. According to the panelists, a slightly bitter taste and undesirable mouthfeel were noticed in cookie samples exceeding 35% coconut testa flour level, which might be the cause of the lower acceptance of cookies incorporated with more than 35 % coconut testa flour. According to the findings of this investigation, replacing coconut testa flour up to a 35 % level might result in palatable cookies. However, higher preferences were given by the panelists to the cookie treated with 65:35 percent wheat: coconut testa flour. Therefore, underutilized coconut testa could be utilized for the development of bakery products with lower gluten content.

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