

Extraction of Natural Flavor from Mango (*Mangifera indica L.*) for Food Applications

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Processed food products with natural mango flavor are rarely present in the market and they are with high cost as mango is a perishable and seasonal fruit. This study was carried out with the objective of extraction of natural flavor from mango using a commercially applicable method. Based on preliminary studies, shaker extraction was selected as the best extraction technique while Tom EJC mango was selected as the best variety among the tested mango varieties. Samples were prepared using 40% (v/v) ethanol and water as solvent systems by using 1:5 solute: solvent ratio and were extracted using shaker technique for 24 hours. Sensory evaluation conducted for two flavor extractions have indicated that organoleptic properties were higher in mango flavor extracted using 40% (v/v) ethanol. This liquid form flavor was with pH value 5.04, total soluble solids 10°Bx, titratable acidity 0.59±0.03% and 108.27±2.8 g/L of alcohol. The best flavor extraction selected from sensory analysis was used to develop mango flavored stirred yoghurts with four different levels; 5%, 7.5%, 10%, 12.5% and another plain yoghurt was prepared without adding flavor. pH, total soluble solids, titratable acidity, syneresis, viscosity and color exhibited a significant difference among each flavored yoghurt. Grouping using Tukey pairwise comparison and considering the properties with plain yoghurt have indicated that 12.5% was the most preferable level from the tested levels for mango flavored yoghurt production. At this level most of the physicochemical properties were similar to plain yoghurt while maintaining mango flavor and exceeding that level was not cost effective. Accordingly, mango flavor extraction using low fiber variety with characteristic flavor like Tom EJC mango with shaker technique using 40% ethanol can be recommended to extract natural flavor more efficiently for commercial applications.

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