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Effect of Moringa (Moringa oleifera LAM) Leaves Extract on Physicochemical and Organoleptic Properties of Fullfat and Lowfat Yoghurt

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Abstract : The current study determined the effect of fortification using Moringa (Moringa oleifera) Leaves Extract (MLE) at different inclusion levels (0, 6, 8, and 10% v/v) on physicochemical and sensory properties of fullfat (FFY) and lowfat (LFY) yoghurt. The results revealed significantly higher protein ($p<0.01$), fat ($p<0.001$) and pH in FFY compared to LFY. The MLE inclusion significantly ($p<0.001$) increased fat contents of the yoghurt types. The pH of LFY produced with 6% MLE was significantly the lowest ($p<0.001$). The concentration of Mg (21.0 mg/100g), Na (63.0 mg/100g), Ca (173.0 mg/100g), P (416.7 mg/100g), Cu (0.59 mg/100g), Co (0.30 mg/100g), Fe (1.13 mg/100g), and Mn (0.059 mg/100g) were significantly ($p<0.001$) higher in 10% MLE inclusion level for both FFY and LFY. Also, Mg, Na, Cu and Fe showed significant ($p<0.001$) negative correlation in fullfat and positive in lowfat yoghurt. The sensory assessment revealed that taste, flavour, colour, texture, and overall acceptability of yoghurt produced with 6% MLE (rated as liked very much) was significantly ($p<0.001$) better than that produced with 8 and 10% (rated liked slightly). It was concluded that fortification of FFY and LFY with 6% MLE produced acceptable yoghurt that has high nutritional value.

Keywords : moringa, fortification, yoghurt, bioactive compounds
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