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Dairy Ices with High Nutritional Value Fortified with Date and Pomegranate Dibs and Red Beet Root Juice Concentrate as Natural Colorant

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ABSTRACT

In this study a healthy functional dairy ice fortified with either date dibs or pomegranate dibs was made, as well using concentrated juice of red beet root as natural colorant in the latter ice milk, phenolic compounds and antioxidant activity were determined. Date dibs used as fortifier and sugar replacer in making the ice milk; the sugar was replaced by 0, 25, 45 and 65% of date dibs. On the other hand, the pomegranate ice milk was made by adding pomegranate dibs at levels of 0, 2.5, 5 and 7.5% also adding 0.5% of concentrated red beet root juice. The ice milk made free of dibs served as control, the chemical, physical and sensory properties of the resultant ice milk samples during storage at -22ºC were studied. Date dibs ice milk treatments showed that increasing the proportion of replacement leads to significantly increase in the standup time, viscosity, specific gravity, weight per gallon, acidity, ash and minerals, while a decrease was occurred in meltdown and pH compared to control (C1). The values of a* (redness) and b* (yellowness) were positively affected while, L* (lightness (value was negatively affected. Also, the sensory evaluation showed that the best treatment is the one that was made by adding date dibs at a rate of 45%. The results of pomegranate ice milk showed similar trends as the ice milk made with date dibs comparing with the control (C2). Also, the sensory evaluation showed that the best treatment was that fortified with 2.5% pomegranate dibs.

Keywords: Functional ice milk, Natural colorant, Date and Pomegranate dibs, Red Beet root, phenolic compounds and antioxidant activity.