

Department : Food Science and Technology

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Title of Thesis : **PRODUCTION OF FUNCTIONAL FOOD PRODUCTS USING DATE FIBERS**

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ABSTRACT: *Functional food is an interesting research area in processed food industry. High fiber bread is one of the known products categorized in functional food which is health beneficial. The current study was designed to incorporate date fiber flour at different levels (5, 10, 15, 20, 25, 30, 35 and 40%) in bread making as a partial substitute of wheat flour. chemical composition and properties of wheat and date fiber flours were determined. Also, the effects of different levels of date fiber on rheological, physical, chemical, physico-chemical and sensory properties of pan and balady breads were evaluated. Moreover, the effect of bread containing date fiber on hypercholesterolemic rats was evaluated. Farinograph parameters of pan and balady bread doughs revealed that water absorption of DF blends was clearly increased by increasing the level of DF. Pan and balady bread dough formulated with DF had darker color and higher redness and yellowness than control. The loaf volume, height and specific volume of pan and balady bread decreased gradually by increasing the level of DF, while the loaf weight increased. The alkaline water retention capacity (AWRC) in control bread as well as bread containing DF was decreased as the time of storage increased. Pan breads made with DF substitution up to 20% were overall acceptable by panelists. The sensory results indicated that wheat flour could be substituted up to 25% using DF without drastically affecting balady bread quality. All sensory attributes of balady bread were not affected by washing DF.*

Key words: *Functional food, food industry, fiber bread, date fibers.*
