



## The influence of modified waxy maize starch on the quality of low-fat yogurt

Khaled Abbas, Hossam M. El-Garhi and Shaimaa Hamdy

Department of Dairy Science, Faculty of Agriculture, Fayoum University, Fayoum, Egypt

Egyptian Journal of Food Science, 45:171-177 (2017)

مكان النشر

**Abstract:** The influence of adding different levels of modified waxy maize starch (1.0, 1.5, 2.0 g/kg milk) as a fat replacer on the physicochemical, textural and sensorial properties of low-fat yogurts (1.5% fat) was studied during the cold storage at 1, 3, 7 days, compared with full-fat control yogurt (3.0% fat). The addition of modified waxy maize starch (MWMS) to low-fat yogurts was significantly ( $P < 0.05$ ) increased for the acidity %, water holding capacity, apparent viscosity and decreased for the syneresis than those presented by full-fat control yogurt during the 7 days' cold storage. Textural measurements showed that low-fat yogurt with 2.0 g/kg milk of MWMS had significantly higher for hardness values than of full-fat control yogurt and no significant difference existed between low-fat yogurts with 1.0 or 1.5g/kg milk of MWMS and the control yogurt in respect to hardness attribute. The sensory analysis did not detect significant differences in both the appearance, whey-off scores of the experimental yogurt samples. The low-fat yogurts with 1.0 or 1.5g/kg milk of MWMS showed insignificant difference with full-fat control yogurts in respect to firmness and smoothness scores. The low-fat yogurts with 2.0g/kg milk of MWMS had a very firm texture, a starchy flavour which was unacceptable. Overall, the good quality of low-fat yogurt can be manufactured with 1.5g/kg milk of MWMS which exhibited textural characteristics resemble those of full-fat control yogurts.

**Key Words:** Low-fat yogurt, modified starch, viscosity, texture.