SORPTION PHENOMENA IN SOME HIGH SUGAR AND PROTEIN TRADITIONAL GREEK FOODS : THE CASE OF HALVA

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To all the working students

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ABSTRACT

Sorption phenomena in plain and cocoa halva were studied using static method. Proximate analysis showed that halva contained on average 55% sugars, 25% fat and 14% protein. Its composition varies due to composition of tahini, a sesame seed paste used for halva manufacture. Moisture sorption isotherms (MSI) were obtained at 10, 25, 40 and 60°C. An hysteresis was observed at each temperature, while its magnitude was reduced with an increase in temperature. The upper limit of hysteresis loop was sifted with temperature increase, with the most dramatic dropping occuring at 60°C. Being a low moisture food, the BET model was applied to study MSI. Very low monolayer moisture values of 0.03 - 0.06 g H_2O/g dry matter were obtained while C constant values ranged from 0.128 to 0.529 in plain halva and from 0.060 to 0.299 in cocoa halva. The net isosteric heat of sorption was reduced as moisture content was increased. As temperature was increased sorbed moisture was increased due to dissolution effects. At 10,25 and 40°C crossing over in isotherms was observed.

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