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Czech J. Food Sci.

Galus S., Turska A., Lenart A.:

Sorption and wetting properties of pectin edible films

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The water vapour sorption kinetics and isotherms of pectin films prepared by the casting method were determined. The measurement of water vapour sorption kinetics was conducted using a saturated sodium chloride solution to obtain constant relative humidity of the environment (75.3%). The measurement was carried out at the temperature of 25 °C over a 24 h period. The water vapour adsorption rate was the highest in the first hours of the process. The exponential equation fitted well the experimental data of water vapour adsorption with time. Glycerol concentration in the analysed films affected the increasing water vapour adsorption. The water vapour sorption isotherms were analysed using the saturated salt solutions with water activity from 0.113 to 0.901 for 3 months at 25 °C. The sorption isotherms curves had a sigmoidal shape for all films. Glycerol

during 3 months. Peleg ' s equation was appropriate for the mathematical description of the sorption isotherms. The microstructure of pectin films showed different internal arrangement as a function of the film composition.

Keywords:

pectin films; glycerol; sorption isotherms and kinetics

[fulltext]