

**Abstract :**

*This paper presents a new empirical model for the description of the experimental data of sorption, which was verified with selected experimental data. The present model is also compared with other sorption models available in the literature, using laboratory as well as field data from literature. Application of the developed equation to food sorption data showed that it gives approximation of sorption isotherms much better than that offered by the GAB model. Moreover, it predicts infinite adsorption at  $a_w=1$ , the property which is not offered by the GAB equation. The new equation makes it possible to interpolate isotherms at high water activities close to one. The probability that the new equation will fit the food isotherm with small ESH and high  $r$  is higher than 95% and substantially exceeds that found for the GAB model*