

**Abstract:**

The determination of sorption isotherms is a necessary step and a preferred way to know the distribution and intensity of water connections in food products. These isotherms are used to determine the final water content in reach to optimize the conditions of storage and drying of these products and for providing valuable information about the hygroscopic equilibrium of the product to dry and store. This study aims both to experimentally determine the desorption isotherms and adsorption of two medicinal plants namely Marjoram (*Origanum Majorana*) and Mint Pennyroyal (*Mentha pulegium*). The experimental results are then smoothed by the GAB model for the description of equilibrium state of these products and their isosteric heats