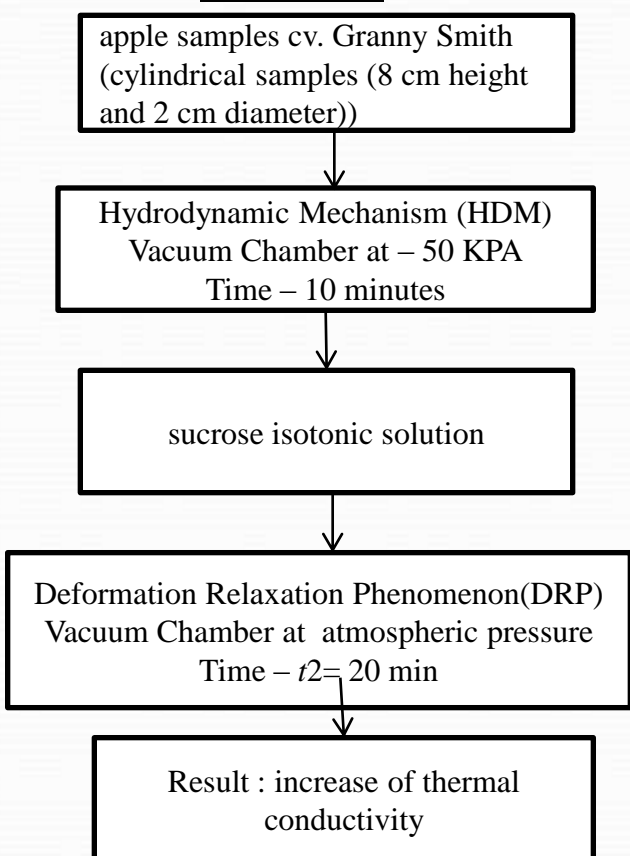


Vacuum Impregnation to modify physico chemical properties and sensory attributes of apple samples cv. Granny Smith (cylindrical samples (8 cm height and 2 cm diameter))

Raw Material	Composition of Vacuum Impregnation Solutions	Process Parameters	Effect
apple samples cv. Granny Smith (cylindrical samples (8 cm height and 2 cm diameter))	sucrose isotonic solution	<i>p1 50 kPa t1 10 min t2 20 min</i>	increase of thermal conductivity

Flow Chart



Vacuum Impregnation Setup



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Result:
Increase of thermal conductivity. Vacuum impregnation also seems to be a suitable technique for modifying the thermal properties of fruit and vegetables. Thermal properties of raw material play a significant role during blanching or preservation of the product by pasteurization or sterilization. The conductivity and thermal diffusion coefficient are determined to a considerable extent by the composition and structure of the product. Modification of its structure by vacuum impregnation applied prior to thermal treatment may improve the efficiency of heat conduction and enhance the quality of the product. Martínez-Monzó et al. (2000) in the case of vacuum impregnation with an isotonic sucrose solution recorded an increase in thermal conductivity of apples by 15%–24%, while changes in the diffusion coefficient were slight.