



## PRE-TREATMENT (OHMIC AND OVEN) EFFECT ON THERMODYNAMIC PARAMETERS OF KIWI DRYING IN MICROWAVE DRYER

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### ABSTRACT

In this article, have been investigated effects pre-treatment ohmic and oven on the amount of energy and exergy kiwi fruit drying in a microwave dryer. In the present study, multilayer perceptron (MLP) artificial neural network was selected. The results of the experiments showed that the oven and ohmic time is significant for the energy efficiency and exergy efficiency and specific energy and exergy loss. In total, with increasing ohmic and oven time and microwave power, the amount of energy and exergy efficiency of the microwave dryer would increase. Based on the results obtained, the maximum amount of R2 in a network containing 5 and 10 neurons was R2Oven = 0.9924 and R2Ohmic = 0.9890 in the hidden layer for energy efficiency, R2oven = 0.9930 R2ohmic = 0.9936 10 neuron and 5 neuron (First layer), 10 neuron (Second layer) in the hidden layer for specific energy loss, R2Oven = 0.9877 and R2Ohmic = 0.9978 for exergy efficiency was observed 5 neuron (First layer) and 5 neuron (Second layer) in hidden layer and for specific exergy loss was best R2 value (R2Oven = 0.9837 and R2Ohmic = 0.9865) in hidden layer with 10 neuron in first and second layer.

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