

Koefisien Perpindahan Panas pada Penggorengan Vakum Buah-buahan Tropis

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Abstract

The technology of time after harvest for tropical fruits, in this time it is still rarely, so the price of fruits becomes very cheap. The make of chips fruit by using of vacuum fryer is one of technology to preserve and increase economic value, although not kind of fruits can be made to be chips. Its problem is data to design vacuum fryer for example heat transfer coefficient for various tropical fruit is still less.

The experiment was done using of batch drum vacuum fryer with control temperature, barometer, vacuum pump and condenser. Before the fruit was fried, was cut with certain shape and size, so weight and heat transfer area can be known. Frying was done at varied vacuum pressure. During experiment, oil temperature change and pressure system were observed.

The results of experiment on early pressure system 22 cmHg. T_{oil} 360 K, $T_{0,fruit}$ 302 K and ratio of fruit and oil 0.0349 show that the value of heat transfer coefficient for banana and pineapple are 12086,6 $W/m^2.K$, 4022 $W/m^2.K$ respectively. Content of water from the fruit chips are $\pm 5.7\%$. Process of fruit chips by vacuum frying degrade vitamin C from substances equal to 17.2 - 27.8 %.