

**DEHYDRATION OF SELECTED FRUITS BY
DIFFERENT DRYING METHODS**

PhD DISSERTATION

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ABSTRACT

This research work was carried out on the drying of selected fruits. (Jackfruit, Mango , Banana and Durian) by different drying methods namely, solar collector dryer (40-45 °C), dehumidified air dryer (55-60 °C) , hot box oven (60°C) and the combined hot air oven-microwave oven (60 °C-50 °C) drying system. The evaluation of the drying efficiency in terms of drying chamber temperature, humidity of drying chamber, volume of air utilized per hour and induced air velocity of one of the drying equipments used in this research, heated dehumidified air dryer, had been carried out just before the dryer was put into service . The basic parameters such as moisture content of fresh and dried fruits, storage life, rehydration ratio, drying yield, drying ratio, and water activity of each fruit were determined. A comparison was made of the quality regarding nutritional value, colour, and flavour of dried fruits obtained by four different drying methods . The results showed that the colour ,flavour and nutritional value of dried fruits obtained by the combined oven and microwave method is much better than that of other conventional methods . The analysis results of dried fruits showed that there is no loss of nutritional value (as far as protein, ash and sucrose) by dehydration and free from harmful microorganisms (mould) and therefore they are acceptable for consumption.

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