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The effect of hot water treatment, different packaging methods  
and storage temperatures in shelf life of dragon fruit (*Hylocereus*  
*polyrhizus*) / Yong Ai Ching.

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**THE EFFECT OF HOT WATER TREATMENT, DIFFERENT PACKAGING  
METHODS AND STORAGE TEMPERATURES ON  
SHELF LIFE OF DRAGON FRUIT  
( *Hylocereus polyrhizus* )**

**By  
Yong Ai Ching**

**Research Report submitted in partial fulfillment of  
the requirement for the degree of  
Bachelor of Agrotechnology Science (Post Harvest Technology)**

**Department of Agrotechnology  
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU  
2009**

## DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged

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## ABSTRACT

Dragon fruit (*Hylocereus polyrhizus*) are high valued crop and sold mainly for fresh consumption. Thus treatments are required to reduce the deterioration of physical appearance and damages due to disease attacks on fruits. These studies determined the effect of hot water treatment, different packaging methods and storage temperature on the shelf life of dragon fruit. The red-fleshed fruit used in the studies was at optimum ripeness and quality which is 5 to 6 days after fruit color change. At ambient, fruit stayed fresh for a few days after which its physical appearance deteriorated and disease infestation set in resulting in spoilage in 7 to 8 days. Fruits however remained fresh and disease-free for 8 days if stored at 10°C with 90% relative humidity, but the fruits started to deteriorate and got spoiled after the 16th day. Fruit treated in hot water of 55°C for 15 minutes and bagged in sealed polyethylene plastic bag without holes maintained their physical appearance better with much reduced disease infestation for up to 16 days in chilled storage as compared with those without heat treatment in similar storage conditions. The findings on extended shelf life of dragon fruit can be applied in local market to reduce wastage due to spoilage and to enable the marketing of this wonderful fruit to neighboring countries.