

EFFECT OF DIFFERENT HARVESTING DATES ON
SHELF-LIFE OF CHILI, *Capsicum annum* var. 'Kwai'

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DEPARTMENT OF TECHNOLOGY AND FOOD SCIENCE
UNIVERSITI MALAYSIA TERENGGANU

EFFECT OF DIFFERENT HARVESTING DATES ON SHELF-LIFE OF CHILI,
Capsicum annum var. Kulai

By
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Research Report submitted in partial fulfilment of the requirements for the degree of
Bachelor of Science in Agrotechnology (Post Harvest Technology)

DEPARTMENT OF AGROTECHNOLOGY
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ENDORSEMENT

This project report entitled **Effect of Different Harvesting Dates on Shelf-life of Chili, *Capsicum annum* var. Kulai** by Noor Ain Binti Mohd Faudzi, Matric No. Uk14700 has been reviewed and corrections have been made according to the recommendations by examiners. This report is submitted to the Department of Agrotechnology in partial fulfilment of the requirement of the degree of Bachelor of Science in Agrotechnology (Post Harvest Technology), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu.



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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

Yield quality at the consumer level depends not only on the storage, handling and packaging conditions after harvest, but also on the environmental factors and maturity or harvesting dates. Determination of optimum harvesting date is very important to improve the shelf life of fruits during the storage because the quality of fruits can be different by with different harvesting dates. This study was conducted to determine the effect of three different harvesting dates [first harvesting; 53 day after flowering, second harvesting; 60 day after flowering, third harvesting; 63 day after flowering] on chili, (*Capsicum annum* var. kulai), on the shelf-life during storage at ambient temperature. Physical characteristics were determined by quantitative measurements of color changes, weight loss and texture (firmness), also chemical evaluation of pH. Generally, the quality of chili deteriorated with increase in storage time. Among all the harvesting dates, it was found, that the normal practices by the farmer of harvesting chilli on day 60 after flowering (second harvesting), could extend the shelf life of chili with minimum change in color (a*value), weight loss, and texture (firmness). However, there was no significant change in other parameters tested. The third harvesting for chili was found to be least effective is maintain the quality of the crops followed the first harvesting.

ABSTRAK

Permintaan pengguna terhadap kualiti hasil sayuran, bukan saja bergantung kepada proses penyimpanan, pengangkutan dan pembungkusan selepas di tuai, tetapi faktor persekitaran, kematangan dan juga waktu penuaian perlu di ambil kira untuk memastikan kualiti sayuran tersebut. Penentuan waktu penuaian yang terbaik adalah paling penting bagi memanjangkan jangka hayat sesuatu sayuran semasa proses penyimpanan, ini kerana kualiti sayuran boleh dipengaruhi oleh waktu penuaian. Kajian ini dijalankan untuk menentukan sama ada waktu penuaian yang berbeza (tuaian pertama: 53 hari selepas berbunga, tuaian kedua: 60 hari selepas berbunga, tuaian ketiga: 67 hari selepas berbunga) mempengaruhi jangka hayat cili (*Capsicum annum* var. kulai) semasa proses penyimpanan pada suhu ambien. Ciri-ciri fizikal ditentukan melalui ukuran kuantitatif perubahan warna, kehilangan berat dan keteguhan tekstur isi, serta penilaian kimia pula melibatkan pH. Secara umumnya, kualiti cili mengalami peningkatan kemerosotan seiring dengan pemanjangan tempoh penyimpanan. Diantara ketiga-tiga waktu penuaian, adalah dikalpasti bahawa waktu penuaian yang sering digunakan oleh petani iaitu 60 hari selepas berbunga (waktu penuaian yang kedua), dapat memanjangkan jangka hayat cili dengan sedikit sahaja perubahan warna, kehilangan berat dan keteguhan tekstur isi cili. Walau bagaimanapun ia tiada perbezaan yang ketara didalam parameter – parameter lain yang uji. Waktu penuaian cili yang ketiga (67 hari selepas berbunga) telah dikenalpasti kurang efektif dalam mengekalkan kualiti sayuran, diikuti oleh waktu tuai yang pertama (53 hari selepas berbunga).