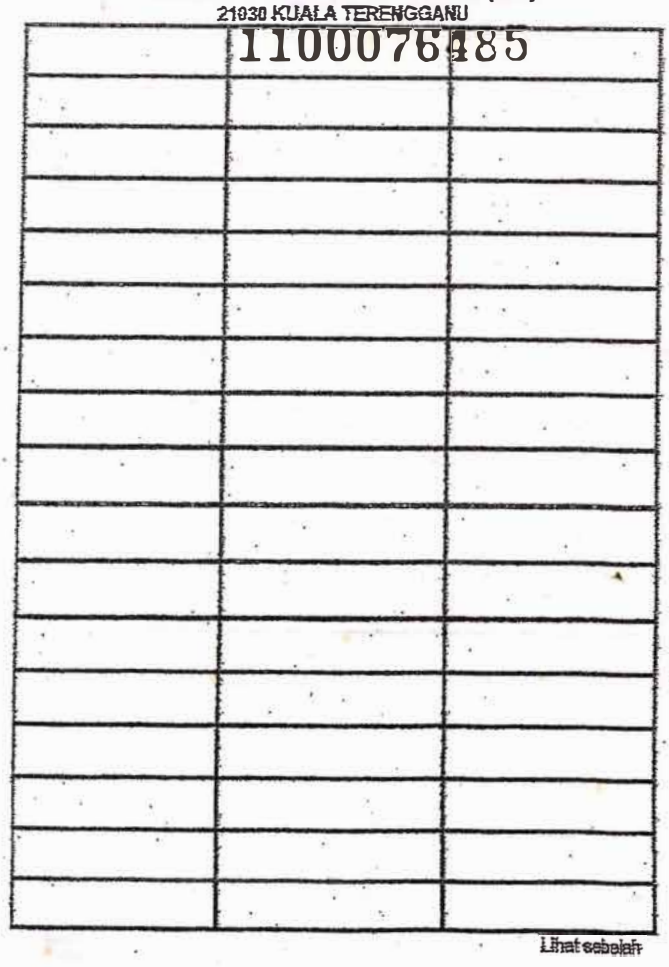
Effect of alginate coating combined with calcium chloride on tomato (Lycopersicon esculentum) quality / Zuraifah Hamzah.



EFFECT OF ALGINATE COATING COMBINED WITH CALCIUM CHLORIDE ON TOMATO (Ly*copersicon esculentum*) QUALITY

By
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Research Report submitted in partial fulfillment of
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Department of Agrotechnology
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FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK ILMIAH I DAN II

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:
EFFECT OF ALGINATE COATING COMBINED WITH CALCIUM CHLORIDE ON TOMATO (Lycopersicon esculentum) QUALITY

oleh ZURAIFAH BINI HAMZAH, No.Matrik UK14006 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan AGROTEKNOLOGI sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda SAINS AGROTEKNOLOGI, TEKNOLOGI LEPAS PANEN, Fakulti Agroteknologi dan Sains Makanan, 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

This study was conducted to improve the shelf life of tomato stored at ambient temperature (28^0C) through coating treatment with 1% and 2% alginate, 1% and 2% calcium chloride and 1% alginate + 1% calcium chloride. Coated tomatoes and uncoated that served as control tomatoes were analyzed to determine the effects of coating on firmness, total soluble solid, colour (hue angle), weight loss and total defect in twelve days of storage. It is found that the firmness of tomato can be improved by a single treatment of 1% calcium chloride and 1% alginate + 1% calcium chloride. However, 1% calcium chloride is more cost effective in maintaining firmness of tomato as compared to the combination. Coating tomatoes with 1% alginate + 1% calcium chloride reduced greater weight loss and retained the hue angle value of tomatoes better compared to other treatments. The results of this study suggest that 1% alginate + 1% calcium chloride is better in improving the shelf life of tomato stored at ambient temperature because this treatment shows a better effect in reducing weight loss and slowing down the ripening process.