

**EFFECT OF GUM ARABIC AS EDIBLE COATING ON
QUALITY OF EGGPLANT DURING STORAGE IN
CHILLING TEMPERATURE**

NURUL HAZIQAH BINTI ZULKIPLI

**BACHELOR OF SCIENCE (Hons.) BIOLOGY
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

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This Final Year Project Report entitled **“Effect of Gum Arabic as Edible Coating on Quality of Eggplant During Storage in Chilling Temperature”** was submitted by Nurul Haziqah binti Zulkipli, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences and was approved by

Amirah binti Sharif
Supervisor
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah Negeri Sembilan

Siti Norazura Binti Jamal
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Dr. Aslizah binti Mohd Aris
Head School of Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Date: _____

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ABSTRACT

EFFECT OF GUM ARABIC EDIBLE COATING ON QUALITY OF EGGPLANT DURING STORAGE IN CHILLING TEMPERATURE

Fruits and vegetables are highly rot in nature which contributing to short shelf-life. Eggplant (*Solanum melongena*) is classified as one of an easily rotten, short-shelf life and sensitive to chilling type of fruit. The application of gum Arabic as an edible coating on fruits and vegetables has been found to delay the ripening process and maintained the overall quality during storage. Thus, this experiment aimed to determine the effect of different concentrations of gum Arabic as edible coating on quality of eggplant during storage in chilling temperature. The parameters measured were physiological weight loss (PWL), firmness, titratable acidity (TA) and surface colour which related to the quality of eggplant. Eggplant was coated with gum Arabic at different concentrations (0, 5, 10, and 20 %) and stored in chiller for 15 days. Result of the experiment showed that all the quality parameters were affected by the coating of gum Arabic during the storage time. However, different concentrations of gum Arabic coating only significantly affected ($p \leq 0.05$) PWL, while storage time significantly affected all quality parameters. Treatment with 20 % gum Arabic coating showed the best performed in maintaining the PWL, which it resulted the lowest PWL at the end of storage (4.93 ± 1.39 %). For firmness, the value showed the decreasing manner over the storage time. While for TA, same decreasing manner in value was shown over the storage time and at the end of storage, coated samples showed better retention in acidity of 0.32 ± 0.05 % for 5 %, 0.32 ± 0.13 % for 10 % and 0.31 ± 0.17 % for 20 %, compared to uncoated sample. For surface colour measurement, the value significantly increased over storage time, in which lowest a^* value at day 0 was 0.62 ± 0.02 and reached to the maximum of 0.79 ± 0.06 at the end of storage (day 15). The results concluded that the application of gum Arabic coating could delay the ripening process and maintaining the overall quality of eggplant. Thus, gum Arabic based coating could introduce a kind of safe and effective manner for extending the shelf-life and preserving the quality of fruits and vegetables.