Title Enzyme changes during softening of cantaloupe melon fruit

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Abstract

The object of this study was to determine the factor affecting softening of cantaloupe melon fruit duripg ripening. The fruit were stored at room temperature for 8 days. Weight loss, ethlylene production, texture and activity of pectinmethylesterase (PME), polygalacturonase (PG), β-galactosidase and galactanase were investigated. Weight loss steadily increased during storage. Ethylene production was dramatically increased and reached a peak at day 2 rapidly decreased until day 5 and then remained constant until day 8. The firmness of the fruit decreased slowly until the peak of ethylene production occurred (day 3) and then rapidly decreased. A decrease of PME activity was detected throughout storage. There was no significant change in PG activity throughout storage. β-galactosidase activity increased during storage but this was not significant. A significant increase in galactanase activity was detected during storage. At day 0, only a very low amount of galactanase activity was detected and was increased dramatically throughout storage Overall, the results indicate that the activity of galactanase is the main factor affecting softening of cantaloupe melon fruit during ripening.