

Application of semi-cutting and waxing in low temperature storage of mangosteen

U. Ahmad, E. Darmawati, F.E. Munanda

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Abstract

Peel hardening of mangosteen fruit is one of the problems in low temperature storage and it makes it difficult to open them before consumption. One attempt to solve this problem is the application of semi-cutting treatment before storage of the fruits. Semi-cutting application requires a combination with waxing and cold storage to prevent faster quality deterioration because it provides a way for microorganisms to enter the fruits, and increases the respiration as well. Waxing helps to cover the pores, and especially in this case, the cut opening, of mangosteen fruit and cold storage helps to slow down the respiration and metabolism. The purpose of this research is to study the effect of semi-cutting treatment in combinations with waxing treatment to increase shelf life, and provides easier opening of the fruits at the end of long storage. Treatment of semi-cutting was conducted on two depths, 3 and 5 mm whereas waxing treatment was conducted with 2 concentrations, 6 and 10%. Mangosteen fruit which has been semi-cut and waxed was stored at 8 and 27°C for 60 days. It was observed that application of semi-cutting 5 mm and waxing 6% in mangosteen fruit stored at 8°C provided easy opening until 33 days of storage while maintaining fruit quality, which is the best result compared with other treatments, because the treatment was able to reduce the peel hardening.