

Thesis Title	Process Development and Storage of Intermediate Moisture Persimmon (<i>Diospyros kaki</i> Linn., Variety Ang Sai and Niu Scin)	
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Abstract

Astringent varieties of persimmon could be produce to an intermediate moisture persimmon. The suitable varieties were Ang Sai (P3) and Niu Scin (P4) which should be treated in carbondioxide condition and stored at 28-32°C for 3 days in order to decrease astringent compound (soluble tannin). After storage at room temperature for 2-3 days until the maturity of the fruit was 80 %.

The investigation of sulfur compound used on intermediate moisture persimmon was studied. It was found that the optimal amount for Ang Sai (P3) and Niu Scin (P4) was 10 grams per 1 m³ of smoking room, the time for smoking was 20 minutes. This was carried out twice, before and after processing. As a result of this process, it was found that the residual free sulfurdioxide content on P3 was 740 ppm, the color properties of the fruit was L (43.02) a* (12.60) and b* (15.24). Additionally, P4 was 650 ppm and L a* b* were 48.35, 14.75 and 23.69 respectively.

An optimal drying time of both varieties was also investigated. It was found that the suitable drying time of P3 persimmon to get the final 30 % moisture content was 60 hours and 34 minutes. In fact, at the end of process 1 fruit (100.75 grams) of P3 could be reduced the weight to 31.83 grams whereas the suitable condition of drying time used for P4 persimmon was 77 hours and 37 minutes which more one fruit of 191.63 grams of P4 could be decreased to 59.11 grams of the final product.

According to the use of potassium sorbate solution for preserved intermediate moisture persimmon (IM-Persimmon), it was found that the optimal concentration for dipping P3 were 2 % for 60 seconds duration. In the end of this process, the residual of sorbic acid in IM-Persimmon (P3) was 860 ppm. The optimal concentration of potassium sorbate in IM-Persimmon (P4) was 3 %, the dipping time was 30 seconds and the residual sorbic acid was 990 ppm.

The packing method and storage time for both P3 and P4 was studied. It was found that packing in vacuum condition of double layer of low density polyethylene/polyester bag and kept at 0°C in order to extend the storage condition. The products were still in the good quality as far as the chemical, physical, microbiological and sensory evaluation were concerned. This was compared with normal packing and the use of CO₂ condition. The products stored at 0°C had better qualities than the others kept at both 10°C and 30°C. Moreover, the product which were not treated with potassium sorbate and kept at room temperature had 10 days of storage life for IM-Persimmon (P3) and 14 days for IM-Persimmon (P4). On the other hand, both IM-Persimmon (P3 & P4) which had been developed. They had the shelf-life of 16 weeks when packed in vacuum condition and kept at 0°C.