Thesis Title **Physico-chemical Quality of Deastringence Persimmon**

Author Mr. Pitthaya Wongchang

M.S. Agriculture (Horticulture)

Examining Committee

Assoc.Prof.Dr. Danai Boonyakiat Chairman
Lecturer Dr. Surin Nilsamranchit Member
Asst.Prof.Dr. Jamnong Uthaibutra Member

Abstract

Study on physico-chemical quality of deastringence persimmon var. Xichu (P2) , was divided into 4 parts. First part was the study on physico-chemical quality of persimmon that was deastringent by 80% carbondioxide and without adding carbondioxide then stored at 5 °C and room temperature (37 °C) for 10 days. The results showed that deastringence persimmon stored at 5 °C had the highest firmness and vitamin C level which were 5.27 kilogram and 7.53 milligram/100 gram respectively which higher than the one stored at room temperature. Non-deastringence persimmon stored at room temperature had the highest total soluble solids at 18.77 degree brix. Non-deastringence persimmon stored at 5 °C had the highest level of titratable acids at 0.27 percent. Tannin level of deastringence persimmon stored at 5 ° C and room temperature were the lowest among treatments which equal to score 1.00.

Part 2 was the study on physico-chemical quality of persimmon that was deastringent by vacuum condition and normal atmosphere then stored at 5 °C and room temperature (37 °C) for 15 days. It was found that deastringence persimmon stored at 5 °C had the highest firmness level which was 5.47 kilogram. Non-deastringence persimmon stored at room temperature had the highest total soluble solids and titratable acids level at 20.23 degree brix and 0.24 percent respectively which higher than deastringence persimmon stored at both temperature. Non-deastringence persimmon stored

at 5 °C had the highest vitamin C level at 4.97 milligram/100 gram. Tannin level of deastringence persimmon stored at room temperature was the lowest.

Part 3 was the study on the correlation between fruit firmness and pectin level. Persimmon was quantified the level of water soluble , ammonium oxalate soluble and hydrochloric acid soluble pectin. The results showed that water soluble and ammonium oxalate soluble pectin level of persimmon increased when fruit firmness decreased. Hydrochloric acid soluble pectin level decreased along with fruit firmness.

Part 4 was the study on comparision of the quality of persimmon that was deastringent by carbondioxide gas , CTSD (constant temperature short duration) and vacuum condition. When persimmon was stored for 28 days , the one in vacuum condition had the highest firmness level at 6.07 kilogram. CTSD persimmon had the highest total soluble solids , titratable acids and vitamin C content at 22.60 degree brix , 0.19 percent and 5.30 milligram/100 gram respectively and higher than the others. Vacuum deastringence persimmon had the highest tannin level at 0.08 gram/100 gram. L , a and b value of the vacuum deastringence persimmon were the highest which were 59.73 , 20.87 and 54.98 respectively.