

## **Fruit Quality and Flesh Disorder of ‘Chiin Hwang’ Mango in Relation to Production Environment in Three Locations in Taiwan**

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### **Abstract**

The purpose of this research was to realize the correlations between production environment and fruit quality factors in ‘Chiin Hwang’ mango. The developmental changes of ‘Chiin Hwang’ mango fruits in Liouquei, Fangsan and Pingtung City in Taiwan were investigated. Flesh weights, total soluble solid contents, flesh disorder ratios and macronutrient concentrations of fruits were assayed at different fruit maturity stages, between 120 and 140 days after anthesis. The results indicated that 30-85 days after anthesis was the stage for rapid fruit growth for all three locations. Among the three locations Fangsan had the lowest fruit growth rate and Liouquei had the lowest dry matter contents in mesocarp and peel between 120 and 140 days after anthesis. The total soluble solid contents (TSSC) in fruits harvested from Fangsan orchard were 15.1% and 17.5% on the 120<sup>th</sup> and 130<sup>th</sup> day after anthesis, respectively. The TSSCs were higher in Fangsan fruits than those in Liouquei, but they were not significant different from fruits harvested from Pingtung City. The fruit disorder ratios increased as the degree of fruit maturity increased in all the experimental locations. The fruit disorder ratio was the lowest on the 130<sup>th</sup> and 140<sup>th</sup> day after anthesis in Fangsan. Nitrogen, phosphorous, potassium, calcium and magnesium, especially calcium, were higher in the peel than in the flesh. Concentrations of nitrogen, phosphorous and potassium in the flesh were in the increase, while calcium and magnesium remained stable between 120<sup>th</sup> and 140<sup>th</sup> days after anthesis. Concentrations of nitrogen, phosphorous and potassium in the flesh from Liouquei were significantly higher than those from Fangsan, however, concentrations of calcium and magnesium were lower than in the fruits from Fangsan.

Key word: ‘Chiin Hwang’, fruit weight, total soluble solids, fresh disorder, mineral nutrients.

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