

Effects of Organic Fertilizer Application on the Quality and Yield of Wentan Pomelo (*Citrus grandis* (L.) Osbeck)¹

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summary

The objective of this study was to investigate the significance of deep placement of organic fertilizers. The study was conducted between 1993 and 1995 at Juisui , Hualien, where is one of the most important Wentan pomelo production areas in Taiwan. Experiment was designed to examine the application of organic fertilizers based on amount of fertilizer used, position of fertilizer applied, and the placement depth. Nutrition of Wentan pomelo tree, fruit quality and yield, physical and chemical properties of soil were examined for each treatment. The results indicated that differences of fruit quality, such as rind thickness, pulp weight and fruit juice among treatments, were not at significant level. Both 30 cm and 60 cm deep organic fertilizer placements had better results on brix degree, and content of fructose, sucrose, and glucose of treatment using 16 kg organic fertilizer, compared to treatment using 32 kg organic fertilizer. In aspects of fruit number and quality, the treatment of 16 kg fertilizer application at a depth of 60 cm was the best, and the treatment applied chemical fertilizer only (without using organic fertilizer) was the lowest.

Deeply applying organic fertilizer increased soil pH, organic matter and nutrient (P, K, Ca, Mg, Mn, Zn, and B) contents, decreased soil bulk density, and enhanced the extension and distribution of root system of the trees.

(key words: Wentan pomelo, *Citrus grandis* (L.) Osbeck, Organic fertilizer, Application method)

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