The effect of net house cultivation and pruning on fruit production and disease and pest on *Fortunella margarita*[1]

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Abstract

Kumquat (*Fortunella* spp.) is an important fruit product in Yilan County, and produces more than 90% of total yield in Taiwan. Most of kumquat are used in processed product, and *Fortunella margarita* Swingle is the main species. In recent years, due to the convenience of kumquat and its health benefits are increasingly favored by consumers, so the proportion of fresh market increased gradually. Thus, reducing the use of pesticides and improving the quality and safety of fruit are the important works for kumquat industry. In this research, we evaluated the effects of net house cultivation and pruning treatment on the yield, fruit quality and the severities of disease and pest of kumquat, to enhance the competitiveness of Taiwan's kumquat industry. The results showed that the fruit yield of net house cultivation was lower than outdoor cultivation, but the harvest period was extended for two weeks, and the yield of each harvest time was more equally distributed. In addition, the fruit rot incidence caused by fruit pests such as fruit fly and Phytophthora disease could be significantly reduced. The pruning treatment could reduce the fruit yield of single tree, but also reduced the severity of citrus melanose. In general, using net house cultivation and pruning treatment lowered the yield, but could produce higher soluble solids content, less severities of pests and diseases, better fruit appearance of high quality fresh kumquat, and couldregulatethe production season. The results can be used as a future establishment model of the kumquat net house cultivation management of pest control technology reference

Keywords: kumquat, net house, pruning, fruit rot incidence, citrus melanose

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