

Application of early flower-forcing to produce off-season wax-apple fruits in Yilan area

Kuo-Ming Lee

Hualien District Agricultural Research and Extension Station
Researcher

Abstract

The total acreage of wax apple [*Syzygium samarangense*] grown in Yilan area is about 398 ha with 'Pink' as the predominant cultivar. Regularly, the fruit matured during June and July which coincide with the east Asia rainy season. The warm and humid climate caused serious cracking and fruit drop. The grower's revenue was hampered due to the inferior quality of the harvested fruits. The most effective and economical way of resolving this problem was to avoid the rainy season by moving the harvest season earlier. In this experiment, we carried out flower forcing treatments including heavy pruning, root pruning and trunk girdling started at an earlier date followed by cultivation management, and the horticultural characteristics and economical analysis of wax apple fruit production were investigated. Flower forcing was carried out during early and late November of 2009, and the regular forcing was used as control. Wax apple trees that were forced at early Nov and late Nov bloomed in late April 2010 with 100% flowering and the ratio of fruit-set was 45% and 100% respectively. The average fruit weight of the second treatment was 116.9 g, which is much higher than the 100 g of the regular practice. The first treatment had the smallest average fruit weight of 96.9 g. However, the first treatment had higher average TSS content of 15.1 degree Brix at the lower-half of the fruit; followed by the second treatment of 14.3 degree Brix. The surface-cracking ratios were 24.6% and 29.5% respectively for the first and second treatments; which were lower than the 41.2% of the regular practice. Economical analysis indicated that the second flower forcing treatment resulted in the best crop with average yield

of 12,000 kg per hectare and were sold at NT\$115 per kg at market price. The total value per hectare was NT\$1,380,000 with a net profit of NT\$1,050,000. This treatment was considered very profitable and worth of recommend.

Key word: Quality ; Improvement ; Wax apple