

Studies on the design and cultivation management of large scale organic banana plantation and the post-harvest ripening of organic bananas

Shih-Chao Chiang¹, Chun-Mei Chang², Hsin-Ping Chen³, Mei-Jen Chen³,
Chih-Ping Chao⁴

Researcher & Chief, Taiwan Banana Research Institute

Assistant Researcher, Taiwan Banana Research Institute

Assistant, Taiwan Banana Research Institute

Researcher & Director, Taiwan Banana Research Institute

Abstract

Farming techniques of organic agriculture in Taiwan have enabled the production of organic banana for a small-scale banana farm. However, to apply the organic farming techniques in a large-scale banana plantation, it requires the experiences of sound operational practices in the strategies of design, planning and farm management, in order to diminish the risk of a failure operation. Several organic-allowed spraying materials, namely, rice vinegar with garlic and hot pepper(10x), palm bunch ash extract(10x), chitosan solution(100x), alcohol(1.3x), emulsified sunflower oil(125x), soapberry extract(100x), narrow-range oil(100x), and citrus extract(100x) were tested effective on the control of leaf freckle disease of banana, and could be recommended as supplements to the leaf protection management in organic banana orchard, in addition to deleafing as the major operation for leaf freckle disease control. To achieve an optimum ripening and discoloration of organic Cavendish banana, temperature mode of 「20°C-18°C-16°C-16°C」 was suggested for organic ‘winter banana’ of both ‘Formosana’ and ‘Tai-Chiao No. 5’, and that of 「18°C-16°C-16°C-14°C」 or 「18°C-16°C-14°C-14°C」 and 「20°C-18°C-16°C-16°C」 for organic ‘spring banana’ of ‘Formosana’ and ‘Tai-Chiao No. 5’, respectively.

Key words : organic farming, *Musa*, Freckle disease, post-harvest ripening