Growth, Yield and Economic Potential of Cavendish Banana Planted in Oil Palm Gaps

ABSTRACT

The mortality of a few trees leads to the emergence of palm gaps or unproductive areas in oil palm plantations. These areas offer the potential for integrating a secondary crop, such as, the Cavendish banana (*Musa acuminata* Colla). This banana is a well-established clonally propagated variety which is well known to local planters, but to date, little information is reported about its agronomy, yield, management, and economic potential as an intercrop in oil palm plantations. In the present study, Cavendish suckers were planted in palm gaps and the respective information was assessed. The suckers were collected from the mother plants in Kota Belud, Sabah. The suckers were planted in polybags for conditioning, and after a month, transplanted at 1.8 m □ 1.8 m distance in palm gaps of the oil palm area in UMS Campus, Sandakan. The planting density was 10 saplings/(2.3 m x 6.0 m) gap. Weeds were machine-cut in the first 11 months, but after that, only when necessary. The weeds were also controlled with application of Glyphosate once/year. Fertilizer was applied once/year as 0.5 kg of NPK15:15:06, NPK15:15:15, and NPK12:12:17, respectively. Compost was added once/year as 1.5 kg of chicken dung and goat manure, respectively. Trees yielded fruits within seven to eight months of transplantation. The banana trees were 2.2±0.2 m tall at fruiting. The yield was 14.6±0.2 kg banana-hand/bunch. The banana hands were 2.0±0.1 kg/hand. There were seven banana hands per bunch, with a weight that ranged from 3.29±0.22 kg (top), 1.92±0.05 kg (middle) to 1.37±0.19 kg (bottom/last) per hand. The banana hands were sold at RM4.0/kg. The profit was RM56.0/bunch, or RM4.06/m^2 /banana. The net profit was RM40.39/banana, or RM29.26/m^2 , not accounting fruit processing and marketing costs, which was not so applicable in this study. In addition, the banana foliage shaded and thereby suppressed the growth of weeds, reducing the manpower and associated cost of weeding in the oil palm area.