

Effect of intercropping to increase the productivity of banana and pineapple in Mahaweli special area of Udawalawe

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Abstract

Pineapple is successfully cultivated in the low country inter-mediate and wet zones of Sri Lanka. Banana cultivation is increasing rapidly in Udawalawa, Mahaweli special area since irrigation facilities are available for Banana cultivation. There is a high potential to intercrop banana with pineapple under irrigation in Udawalawa area. Therefore, a field experiment was conducted to study the effect of intercropping Banana with pineapple. The selected area is located at Kiriibbanwewa Block 07 in Udawalawa, Mahaweli Special area in Low Country Dry Zone (LD1).

The treatments used in the experiment, were pineapple single row system without changing Banana spacing of 3X3 m (T1), pineapple double row system with banana spacing of 3X4.5 m (T2) and Pineapple three-single row system banana spacing of 3X6 m (T3). The experimental design was Completely Randomized (CRD) and treatments were replicated by 3 times. Data were collected at two weekly intervals.

Number of leaves/plant, plant height, number of suckers per plant, time taken for flowering, harvesting and yield parameters of Banana were collected. For pineapple, number of Fruits/plot was recorded.

Results revealed that all growth and yield parameters in both banana and pineapple were not significantly affected by different treatments. In Banana, times taken for flowering was about 9 months and after flowering, bunches were ready to harvest at 3 months time. Mean bunch weight, hands per bunch and fingers per hand were 10 kg, 10 and 13 respectively. In pineapple, the time for flowering was about 12 months and harvesting was done 90 days after flowering. Average fruit weight of pineapple was 380g. The highest total yield and total income (15,000 kg/ha and 230,000 Rs/ha respectively) were recorded from the single row system without changing spacing of Banana compared to the other two treatments. It could be concluded that, there was no significant differences in all three intercropping systems. But, considering the total yield and total income, single row system was the most suitable system without changing existing spacing of Banana.

Keywords: Banana, Pineapple, Low Country Dry Zone