

ABSTRACT

Fertilization Of Banana In Jamaica

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Banana is the second most important export crop in Jamaica. Since fertilizers account for up to 27 % of material costs in banana production resulting in as much as 50 % increase in yield; it is proposed that increased competitiveness in the industry can come through greater fertilizer use efficiency. The manipulation of fertilizer frequency, with the possibility of increasing fertilizer use efficiency has, therefore, been studied.

These studies were carried out under irrigated and rainfed conditions. Timing and rate of applications were also included as factors on one of the irrigated sites. The other irrigated site had N source as its main factor.

Results showed that on an alluvial soil where the crop water requirement was met only by rainfall, there was very little advantage gained by increasing the frequency of fertilizer application, (at $P \leq 0.05$). That is, the traditionally recommended frequency of three applications per year was found to produce plants that performed equal to those that had received once monthly applications.

Under irrigated conditions there was a general lack of response to fertilizer frequency manipulations. The most significant result being the increased number of leaves produced by plants receiving 12 cycles of N and six cycles of K.

The comparison between ammonium sulphate ($(\text{NH}_4)_2\text{SO}_4$) and urea ($\text{CO}(\text{NH}_2)_2$) showed that where soil acidification is a problem it is possible to utilize urea instead of $(\text{NH}_4)_2\text{SO}_4$ with minimal loss in productivity. This is provided that steps are taken to minimize losses to urea.

Soil and leaf analysis were utilized to monitor the uptake of nutrients. From these it was determined that the lack of response to treatments may have been due to the high levels of nutrients in the alluvial soils. This would be in particular reference to P and K. The recommendation is, therefore, for soil and leaf analysis to be used to monitor changes in nutrient levels and nutrient fertilizer application response to be made accordingly.