

Abstract

Quality of strawberries in the tropics is partly limited by poor soil fertility, while profitability of different nutrient management strategies has not been established. The present study determined the effect of 0, 18, 36, and 54 t/ha farmyard manure (FYM) and triple super phosphate (TSP), equivalent to 0, 17, 34 and 68 kg/ha phosphorus (P) on quality and profitability of strawberries. The study was done in three seasons on field 3 of Tatton farm-Njoro, Kenya. The design was split-plots embedded in randomised complete blocks, replicated three times. The FYM and TSP were broadcasted to main plots and sub-plots, respectively. Each treatment had 10 plants, spaced at 0.3 m x 0.45 m in 0.6 m x 1.5 m plots, mulched with black polyfilm and irrigated with drip lines. Berry fruit size, brix index and storage life were determined from 26 to 42 weeks after planting (WAP). Profitability was calculated using berry yield-income and input-costs at the end of the study. Results varied depending on response variable. High FYM and TSP significantly ($P < 0.05$) increased fruit size, but lowered storage life. High FYM significantly lowered brix index. Low FYM plus moderate P significantly lowered fruit size. Thus, 54 t/ha FYM plus 34 kg/ha P and 36 t/ha FYM plus 17 kg/ha P are recommended for large-sized and sweetest, long-storing berries, respectively. Manure alone increased profitability more than TSP alone. Highest FYM and TSP did not always result in highest profitability. The relationship between treatments and profitability was sigmoid, and dependent on site and season. Thus, profitable strawberry mineral nutrition packages will have to be developed for each site and season in Kenya.