

## Abstract

Strawberries are popular both in fresh and processed forms because of their enormous values. Low soil fertility is among major factors constraining strawberry productivity in Kenya. Consequently, effects of cattle farmyard manure (FYM) (0, 18, 36, and 54t/ha) in combination with triple super phosphate (TSP), equivalent to 0, 17, 34 and 68kg/ha phosphorus on strawberry productivity, were tested in split plots embedded in randomized complete block design, replicated three times. Farmyard manure formed main plots, whereas TSP formed sub-plots. Each treatment had 10 plants spaced at 0.3m´0.45m in double rows per plot, measuring 0.6m´1.5m. The plots were mulched with black polyfilm, irrigated with 2.5cm diameter drip lines, and separated with a 0.5m trench. The study was done in three seasons (August 2003-July 2004, Feb. 2004-Jan. 2005, and July 2005-June 2006). Each season was conducted in new plots. Growth and fruit yield were assessed from 3 to 6 and 6 to 12 month after planting, respectively. Since seasons 1 and 2 data were not significantly different they were pooled and reported as season 1, whereas the different season 3 data were reported separately as season 2. Generally, the 54t/ha FYM promoted the highest growth, although not significantly different. Phosphorus (P) significantly ( $P<0.05$ ) increased root biomass, and root: shoot biomass ratio. The effects of FYM, P and interaction on fruit yield were not consistent. The 36 and 54t/ha FYM resulted in the highest fruit weight in seasons 1 and 2, respectively. Phosphorus did not significantly ( $P>0.05$ ) influence fruit weight, although 17 and 34kg/ha P yielded highest in seasons 1 and 2, respectively. The effect of interaction on cumulative yield was not significant in both seasons. Thus the observed variation was also attributed to soil and seasonal effects. Based on the current results, 36 t/ha to 54t/ha FYM and 17 kg/ha to 34kg/ha P are recommended for enhancing strawberry productivity under conditions similar to the ones for the present study. Phosphorus should only be applied where soil tests show deficiency.