

Effect of Spacing on Growth and Yield of Sweet Pepper in Embu County

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Abstract

Sweet pepper (*capsicum annum L.var.califonia wonder*) belongs to the solanaceae family and is commonly referred to as capsicum, sweet pepper or green pepper. Among vegetables the crop ranks second after tomato in Kenya. In Kenya the crop is commonly grown by small holder farmers in mixed farming systems as a source of income. The crop has high demand and is largely consumed and sold domestically but has export potential. The crop is rich in potassium, fiber and vitamins. Farmers grow the crop using various spacings determined by the number and type of the dominant crops in the specific farms they are grown in. The crop yield obtained by peasant farmers is often very low due to various production constrains, such as poor husbandry practices such as poor spacing. The objective of this study was to determine the appropriate spacing for optimum growth and yield per plant and per hectare. The experiment was carried out at the University of Embu demonstration farm. The treatments comprised of four levels of spacings i.e. T1 -50cm by 50cm,T2- 50 by 40cm,T3- 40cm b 40cm and T4-40by 30cm. The test crop was bell pepper variety California wonder. The experiment was set out in a randomized complete block design replicated thrice. Each plot measured 2m by 2m. The seeds were obtained from a KEPHIS accredited agro-vet shop at Embu town. The seedlings were raised in a nursery bed and later transplanted to the main field. The experiment was laid out in a Randomized Complete Block Design (RCBD) with three replications. Data collected included plant height (cm),number of branches per plant, number of leaves per plant ,stem girth(cm) ,fruit length and breadth (cm), ,days to first harvest ;number of fruits per plant, individual fruit weight (g) yield per plant(g) and yield per plot (kg) was measured and was subjected to statistical analysis using Genstat statistical software. Mean separation was done using least significant differences (LSD) at $p < 0.05$. The results indicated that lant spacing had significant variation in almost all growth but not on yield components. Number of branches per plant, number of leaves per plant, stem girth, significantly increased with increased plant spacing. Number of fruits per plot, days to 50% flowering, fruit breadth, yield per plot and yield per hectare were found to have no significance difference under various spacing levels. It is recommended that the study be repeated for another season to confirm these results.