

**Influence of cow and poultry manure on the performance of spinach (*Spinacia oleracea*)
in Kangaru, Embu Kenya**

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Abstract

Spinach (*Spinacia oleracea*) is a perennial vine food in the tropics where it is widely used as a leafy vegetable. There has been inadequate information on organic spinach production with the use of cattle and poultry manure thus the lack of suitable organic fertilizer that could complement or supplement inorganic fertilizer. The objective of this research was to evaluate the use of cattle and poultry manure in the production of spinach. The experiment was set up in a randomized complete block design with three treatments (triple super phosphate (TSP), poultry and cattle manure) replicated three times. Data on number of leaves per plant, leaf fresh weight, length and width of first leaf at 4-5 weeks after planting. Data was subjected to analysis of variance (ANOVA). The key findings of study revealed that poultry and cow manure had no significant difference in their influence on plant growth. However, there was a significant difference in the weeks after application with poultry manure being the best. The research recommends that farmers need to supplement or complement inorganic and organic fertilizers during spinach production. Further research need to be undertaken so as to come up with the most suitable organic fertilizer so as to cut cost of spinach production, for high production and high profit in return.