Abstract

Chia (Salvia hispanica L.) is an emerging food crop in Kenya and has attracted a lot of attention due to its edible seeds and leaves. Despite its importance, Chia production is still very low due to scarce information on the agronomic management. A field experiment was conducted in the upper-midland zone Meru County, at the Meru University of Science and Technology, in two seasons (February-June 2021 and March-August 2021), to determine the influence of nitrogen fertilizer and spacing on growth and yield of Chia (Salvia hispanica L.). The experimental design was a randomized complete block design with a split plot arrangement with four nitrogen rates (0, 40, 80, 120 kg N ha-1) as main plots and three plant spacing levels (30 cm x 15 cm, 30 cm x 30 cm, 50 cm x 50 cm) as the sub plots, replicated three times. Application of 120 kg N ha-1 significantly increased ($p \leq 0.05$) vegetative growth and seed yield of Chia. Chia height, number branches, stem diameter, number of leaves and total dry weight increased by 23-28%, 11-13%, 43-55%, 59-88% and 59-101%, respectively. 50 cm x 50 cm significantly increased ($p \leq 0.05$) vegetative growth. An increase of 7-8%, 27-74%, 36-45% and 73- 107% was recorded in number of branches, number of leaves, stem diameter and dry weight, respectively. Chia yield per plant was significantly higher ($p \leq 0.05$) in 50 cm x 50 cm. However, when expressed per unit area, 15 cm x 30 cm significantly produced higher yields. The study recommends 120 kg N ha-1and a 15 cm x 30 cm as the best option for Chia production in Kenya.

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