

# **Response of Sweet Wormwood (*Artemisia annua* L.) to Different Rates of Inorganic Nitrogen Fertilizer in Semi-Arid Zimbabwe**

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## **Abstract**

Sweet wormwood (*Artemisia annua* L.) is a highly valued crop, native to China, whose active ingredient “artemisinin” and its derivatives: artemether and artesunate, are used to prepare anti-malaria drugs. In Zimbabwe, very little has been done on improving agronomic practices that can enhance the yield of this crop. As a result, herbal gardens in Zimbabwe producing this sweet aromatic herb are realizing low leaf biomass. The objective of this study was to determine the effects of varying nitrogen fertilizer levels on growth and yield of *Artemisia annua*. A randomized complete block design (RCBD) was used and replicated four times. The fertilizer treatments consisted of 0, 40kg N/ha, 80 kg N/ha, 120 kg N/ha, 160 kg N/ha and were applied as a top dress four weeks after planting. Applying 80 kg N/ha, 120 kg N/ha or 160 kg N/ha resulted in the best performance of *Artemisia annua* with respect to the plant height, root dry weight, stem dry weight and leaf biomass. Low N level (40 kg N/ha) recorded significantly low means in plant height, root weight, stem weight and leaf biomass. The results suggest that 80 kg N/ha should be recommended for use by *Artemisia annua* farmers, since there was no significant different among the three higher fertilizer levels. However there is need for further research to determine different fertilizer use efficient to come up with accurate agronomic data package for Zimbabwean farmers.