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## Effect of Agronomic Practices on Growth and Leaf Yield in *Gynandropsis gynandra* (L.) Briq.

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### Abstract

*Gynandropsis gynandra* is an African Leafy Vegetable with high nutritional and medicinal values. However, its production is constrained by poor germination and inadequate agricultural practices. This study assessed the effects of seedlings age at transplanting, planting spacing and cutting frequency on growth and yield in *Gynandropsis gynandra* in order to improve its production in urban and peri-urban agriculture. Seedlings were transplanted at two ages (two weeks and three weeks after sowing) and three spacing (15 cm × 15 cm; 20 cm × 20 cm and 30 cm × 20 cm). They were harvested following three cutting intervals (one week, two weeks and three weeks after the first harvest). Those factors were factorial combined and evaluated in a randomised complete block with three replications. Growth parameters including plant height, stem diameter, number of leaves and branches, leaf length, leaf width and leaf area as well as yield parameters such as total fresh and edible biomass and dry matter content were measured. Analysis of variance and generalised linear model were used to analyse the data collected. The results revealed that seedlings age, plant density and cutting frequency have significant effects on growth and biomass yield without interaction. Seedlings at two weeks' age grew better during the 21 days after transplanting while three weeks old seedlings responded better after cutting. The planting spacing of 15 cm × 15 cm gave a higher biomass yield (29 t/ha) while plants at two weeks after the first harvest regrew better with a higher biomass. No significant effect was noted on leaf area ( $p > 0.05$ ) at each harvest but it decreased through time in contrast to dry matter which increased. These results offer new insights into best agronomic practices for cultivation of the species.

**Keywords:** African leafy vegetables, cutting frequency, leaf yield, planting spacing, seedling age, spider plant