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The effect of the dose of organic manure on the growth and agro-morphological parameters of okra (*Abelmoschus esculentus*) in the region of Fatick, Senegal

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Abstract

Low soil fertility in sub-Saharan Africa is one of the constraints limiting agricultural production and justifying the effectiveness of mineral fertilisers on crop yields. However, while mineral fertilisers are generally effective during the first years of cultivation, a drop in yields is observed after five to ten years of continuous applications of exclusively mineral fertilisers. The loss of soil fertility is the main problem of Senegalese agriculture. A comparative study of the effects of organic amendments based on horse dung was carried out in order to evaluate the effect on the production and growth of okra (*Abelmoschus esculentus*) looking at agromorphological parameters as height, diameter of the neck, and number of leaves per plant. The experiment was carried out in the Fatick region more precisely in the village Nobadane, on women managed plots with the Clemson spineless variety. The experimental device had three treatments (D0%, D50%, D100%) with three repetitions. The treatments corresponded respectively to the control without addition of organic manure (D0%), an application of 1 kg of horse dung per hill (D50%), and an application of 2 kg of horse dung per hill (D100%). Under the conditions of the experiment, the analysis of the results showed that the supply of organic matter had no significant effect either on the height of the plant nor on the diameter at the collar. On the other hand, D50% showed a significant effect on the number of leaves as compared to D0% and D100%. This study is important for proposing possible solutions to improve soil fertility.

Keywords: *Abelmoschus esculentus*, growth, horse dung, organic fertiliser