



Tropentag, September 20-22, 2023, hybrid conference  
“Competing pathways for equitable food systems transformation:  
Trade-offs and synergies”

## Dose effect of organic matter on growth and biomass parameters of *Hibiscus sabdariffa* (L.) (Bissap) in the Fatick region

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### Abstract

In Senegal, agriculture is a key sector of the economy, contributing around 8% of the country's GDP. In addition to being an important economic lever, it makes a strong contribution to the country's social development through job creation, food security, and the fight against poverty. Thus, 60 to 70% of the working population depends directly or indirectly on agricultural activities. *Hibiscus sabdariffa* (L.) plays an important socio-economic role in the Sahel; through its calyxes, leaves and seeds it constitutes an important source of food and brings considerable income to producers. However, its production encounters enormous difficulties, notably due to poor soils and a lack of water, leading to a drop in yields. To alleviate this problem, growers resort to excessive use of chemical fertilisers which, in addition to the ecological and environmental problems they cause, are unable to maintain soil fertility levels. Hence the importance of this study, which aims to promote the use of organic residues to restore soil fertility. The aim is to contribute to sustainable productivity of *Hibiscus sabdariffa* through the use of horse dung in farming systems. Different doses were used to determine and compare their effects on the growth and fresh biomass of *Hibiscus sabdariffa* plants. The experimental set-up was a one-factor Fisher block with three treatments: 100% dose, 50% dose versus a control. Each fertiliser was applied to 2 kg, 1 kg and 0 kg of soil, respectively. Growth parameters were measured at regular dates and fresh biomass at the end of the trial. The results of this study were non-significant between the different doses. However, growth and biomass of *Hibiscus sabdariffa* were very satisfactory with DF100% followed by DF50% compared with the control (DF0%).

**Keywords:** Biomass, growth, *Hibiscus sabdariffa*, horse dung, organic fertiliser