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## ECOLOGICAL AND STRUCTURAL STUDY OF THE *MORINGA OLEIFERA* POPULATION IN THE SUDANO-SAHELIAN ZONE: CASE OF THE FAR NORTH OF CAMEROON

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### ABSTRACT

*Moringa oleifera* is an introduced species grown in the Sudano-Sahelian zone of Far North Cameroon and highly sought after by the population because of its socio-economic importance and its potential for restoring degraded soils. In a perspective of its sustainable management, the present study aims to improve knowledge on the current structural state of this multipurpose species in this region in three sites (Diamaré, Mayo-Danay and Mayo-Tsanaga). A total of 144 records were inventoried in the 25 m \* 25 m quadrats in an agricultural environment where *M. oleifera* is associated with crops for 48 records per site. The data measured in each quadrat are diameter, height and crown diameter. The calculated structural variables showed that the mean diameter ranged from 8.19 to 12.22 cm ; the mean height from 4.1 to 5.30 m ; an mean crown of 2.07 to 2.90 m, with an mean density between 978 and 1081 stems/ha ; an mean basal area between 3.53 and 6.65 m<sup>2</sup>/ha for a coverage rate between 21.78 and 38.48 %. The demographic distribution of the population showed a predominance of individuals with a diameter between 5 and 10 cm for a height between 2 and 4 m and a crown lower than 2 m reflecting a young and exploited population. Statistical results showed a positive and significant correlation between diameter, height, and crown of *M. oleifera* (p= 0.0001). This work provides basic scientific information to serve as ecological indicators of the level of exploitation and sustainable management of this multi-purpose forest resource in the region.

**Keywords :** Agroforestry, dendrometry, Far North, *Moringa oleifera*, Structure.