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Nutrição e Produção de Ruminantes

Mineral characterization of maniçoba (*Manihot psudoglaziovii*) in a native Caatinga area in Petrolina, PE

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Maniçoba (*Manihot pseudoglaziovii*) stands out as a native forage in the Semiarid region of Northeast Brazil due to its high nutritional value, productive potential, drought resistance, and persistence in acidic and low-fertility soils. However, there's still limited information in the literature regarding the mineral content of this forage. Therefore, the objective was to characterize the macro and micromineral content of maniçoba. The experiment was conducted at the Caatinga Experimental Field and the native Caatinga area of Embrapa Semiarid in Petrolina, PE, where plant samples of leaves and branches of maniçoba with a maximum diameter of 5 mm were collected. The materials were pre-dried in a forced air circulation oven at temperatures between 55 and 60 ºC until a constant weight was reached. Subsequently, they were ground in a Willey knife mill with a 1 mm sieve and stored in labeled plastic containers. The mineral contents were determined as follows: boron (B) through azomethine H colorimetry; phosphorus (P) and sulfur (S) with metavanadate colorimetry and barium sulfate turbidimetry, respectively; nitrogen (N) using the Kjeldahl method; sodium (Na) and potassium (K) by flame photometry; and calcium (Ca), magnesium (Mg), copper (Cu), iron (Fe), manganese (Mn), and zinc (Zn) by atomic absorption spectrophotometry. The average results from four collection repetitions were calculated and expressed in $g.kg^{-1}$ for macrominerals and $mg.kg^{-1}$ for microminerals. The concentrations of macrominerals followed the descending order: N, K, Ca, P, Mg, S, and Na. N had concentrations of 33.43 $g.kg^{-1}$, demonstrating its potential in providing nitrogenous compounds. K and Ca were the second and third most concentrated macrominerals, with 5.39 $g.kg^{-1}$ and 2.87 $g.kg^{-1}$, respectively, followed by P with a level of 2.10 $g.kg^{-1}$. Macrominerals with concentrations below 1.00 $g.kg^{-1}$ were Mg with 0.21 $g.kg^{-1}$, S with 0.08 $g.kg^{-1}$, and Na with 0.03 $g.kg^{-1}$. The highest micromineral concentrations followed this order: B, Zn, Fe, Mn, and Cu. B was the most concentrated micromineral (134.50 $mg.kg^{-1}$), followed by Zn and Fe with intermediate levels of 22.96 $mg.kg^{-1}$ and 15.64 $mg.kg^{-1}$, respectively. Mn and Cu had lower concentrations of 15.12 $mg.kg^{-1}$ and 3.09 $mg.kg^{-1}$, respectively. Thus, maniçoba demonstrates a good concentration of macro and microminerals for the nutrition of small ruminants. However, since some requirements are not fully met, strategies are needed to complement the mineral demands.

Keywords: calcium, Semiarid, small ruminants, zinc.
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