Journal of Forest Research: Open Access

OPEN ACCESS Freely available online

Editorial

Editorial Note on Input and Production of Nutrients in an Agroforestry Environment

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EDITORIAL

Alternatives to conventional agricultural farming methods, such as agroforestry systems, which merge production and environmental protection, are currently being studied. The purpose of this analysis was to measure the contribution of trees to the input and production of nutrients in crops grown in the agrosilvopastoral system in Sobral municipality, Ceará Province, Brazil. In the rainy and dry seasons, nutrient concentrations were quantified in Cordia oncocalyx Allemão (called pau-branco) trees in shade and sun leaves and at harvest time in maize leaves. Concentrations of nutrients in various soil layers (0-10, 10-20 and 20-40cm) were also quantified from the trunk of C at 0.4 and 4.0 m. Oncocalyx trees with trees. Also measured was the contribution of the trees to the nutrient input to the scheme and the nutrient production due to the elimination of maize plants. The land under the canopy of C. The maximum concentrations of total N, K, P, Fe, Cu, Zn and Mn were seen by oncocalyx. In the concentrations of maize leaf nutrients, however, few variations were noted as a result of the distance from the trunk. The trees will produce up to 35 kg ha-1 Ca, 19 kg ha-1 N and 15 kg ha-1 K, while roughly 2.3 kg N, 5.6 kg K and 0.2 kg Ca leave the maize plant shoot removal method. The conservation of trees in processing systems thus contributes greatly to the replenishment of the nutrients depleted from seed harvesting.

Mineral nutrients are necessary because deficiencies prohibit plants from completing or improving their life cycle, and they enter the soil by weathering, mineralization of organic matter, atmospheric deposition, runoff from precipitation that leaches leaves and stems with minerals or also by fertilization. Among the mechanisms from which soil lacks mineral nutrients are explosions, flooding, leaching and plant destruction. Thus, an effective compromise of inputs and outputs should be included in the management of agricultural systems, where losses are small and are restricted to the marketable product's harvest in order to preserve soil fertility. Agroforestry systems (AFS) have arisen as an alternative agricultural activity because they allow indigenous or exotic shrub species to be maintained in cultivated areas and are based on the assumption that structurally and technically more complex land-use systems than monocultures are increased productivity in the selection and usage of natural resources results in (nutrients, light and water).

Studies have shown that AFS is capable of minimizing N leaching and increasing C immobilization, as well as pH, cation exchange capability (CEC), exchangeable bases, N, P and K levels, and soil organic C concentrations (SOC).

The components of AFS include plants, crops and livestock, and literature has documented the impact of AFS on the growth of trees or crops. There is evidence that the management of agroforestry may have positive effects on crops relative to monocultural crops. In comparison, the management of agroforestry can have a detrimental effect on the production of trees due to crop rivalry. Management schemes that involve the elimination of vegetation are considered to modify an area's nutrient dynamics since bare soils tend to lose nutrients by surface runoff, creating less litter from a diminished amount of tree plants, which decreases soil nutrients, lowering plant nutrients by exporting extracted plant parts. In comparison, the influence of agroforestry management on the system's nutrient dynamics is not well understood, especially in the Brazilian semi-arid zone. The goal of this analysis was therefore to measure the contribution of trees to soil nutrient input and production by crop harvesting and to evaluate the impact of trees on crop nutrient concentrations

The involvement of trees in the agrosilvopastoral environment helps to preserve the chemical content of the soil, as demonstrated by higher nutrient concentrations under the Cordia oncocalyx canopy. While these higher soil concentrations have no influence on maize plants' nutrient concentrations, the sum of nutrients that return with the collapse of C to the environment. Oncocalyx leaves are adequate to replace the losses arising from partial maize elimination. The involvement of trees is also important for nutrient cycling and soil fertility conservation and may reduce the need for external inputs to improve agricultural practices.

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Received: February 19, 2021, **Accepted:** February 19, 2021, **Published:** February 26, 2021

Citation: Chen J (2021) Editorial Note on Input and Production of Nutrients in an Agroforestry Environment. J Forest Res. 10:250.