

EVALUATION OF AN AGROECOLOGIC GOAT PRODUCTION SYSTEM IN THE SEMI-ARID REGION OF BRAZIL

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Abstract / Resumo:

The objective of this study was to evaluate an agroecologic goat production system in “Caatinga”, a typical rangeland of Brazil. The original “Caatinga” was modified, it was done a strip cutting the wood vegetation that improved the availability of herbaceous and arbustive extracts. This research was carried out from January to December of 2009. The experimental station is located 3 ° 42 'South latitude, 40 ° 21' west longitude, and 83 meters higher than sea level. The weather is BShw 'according to the Köppen classification, with rainy season from January to June and average rainfall of 759 mm/year. The area with 8 hectares (ha) was divided in three parts: forest reserve (1,6ha); agricultural (1,6 ha) and livestock area (4,8ha). It was done a lowering and thinning of woody vegetation in agricultural and livestock area, with the preservation of up to 200 and 400 trees per hectare, respectively. The average mass of “Caatinga” , was measured all months and it ranged from 800 kg/month in December to 3600 kg/month in June at livestock area. However, it was observed that more than 70% of biomass was constituted of avoided plant species or had a little intake by animals, such as “Bamburral” (*Hyptis suaveolans* (L.) Poit) and “Mofumbo” (*Combretum leprosum* Mart.). These results indicate that will be necessary increase the production of forage species in the area. Probably, the reduction of biodiversity and forage production was a consequence of overgrazing and selectivity of goat, during the rainy season. It will be necessary, in a near future, use some strategies of excluding grazing and/or stockpile forage to improve the forage production in the area. Besides, the activities of lowering and thinning of wood increase the requirements of labor in the system. Those activities compete for the time to plant, for example, corn and beans to his family. Probably, the cost of opportunity of labor time limits the adoption of this technology by smallholder farmers. Those results showed that is necessary improve the efficiency of the smallholder farmer labor. On the other hand, the agroecologic system permit an increase of food supply for family (corn, beans, goat milk and meat), allows the incorporation of 11 tons of organic matter in the soil, sustainability of production and become economically viable the small-holder system in the Brazilian Semiarid.