Abstract

The agroforestry systems for animal production, that nowadays constitute scientific achievements of the Grasses and Forages Research Station "Indio Hatuey" and other research institutions of Cuba, have been developed from the results of investigations that were carried out since the 1980's, to improve the productivity of natural pastures through the introduction of valuable herbaceous species and tree legumes. Those investigations also determined the essential elements of pasture management such as the optimal stocking rates for low input systems and suitable grazing methods to achieve the sustainability of grasslands. Among the diverse types of Silvipastoral systems under study, the protein banks and multiple associations of legumes and grasses have contributed much to the development of sustainable milk and meat production, and could be considered as systems that can be extended and to the farmers and that integrate well with the production objectives of Cuban cattle production. Leucaena leucocephala has been the most frequently used tree in Cuban silvipastoral systems and it has also contributed much to experimental data that demonstrate the real advantages of agroforestry. However, it is not the only species used. Others such as Albizia lebbeck, Erythrina berteroana, Erythrina poeppigiana, Gliricidia sepium, Bauhinia purpurea and Morus alba, have been tested with success and appear to be important elements of diversification of plant communities in silvopastoral systems in Cuba. The main results obtained on the use of agroforestry for animal production in Cuba are: Daily live weight gains between 500 and 600 g in young bulls for fattening, with an average production of around 800 kg of meat per ha annually, daily milk production of 7-10 kg/cow (9-14 kg/ha), without supplements, daily live weight gains between 400 and 525 g in growing replacement heifers, which allows a liveweight for reproduction of 290-300 kg at 20-27 months of age, minimal use of inputs external to the system. The renovation and introduction of appropriate pastures, adapted to local edaphoclimatic conditions, together with the strategic incorporation of tree plants and shrubs in the grazing areas, seems to be a technological alternative that would contribute to improve the bovine production, diminishing the impact on the ecosystems where they are developed. This could constitute an economically viable solution that doesn't produce environmental damages and is socially accepted, which short term benefits would be observed in a sustained increment of the animal production.
Keywords
Animal production, silvopastoral systems