Natural regeneration of native trees for the implementation of silvopastoral system for beef cattle production in Brazil

Key Messages

Author: Rogerio M. Mauricio (UFSJ-Brazil, AN2)

Significance – this study/practice is to demonstrate that is possible achieve and integrate most of the SDGs/2030 for livestock in the tropics by using the silvopastoral system as one alternative to conciliate cattle production, environmental conservation and social improvements.

Social – the higher biomass produced in the silvopastoral system gives security for cattle nutrition and financial stability to the farmer and the farmworkers which promotes a better social security.

Economic – if there is a system that promotes greater forage biomass production throughout the year, the economic stability is improved and also the profits. In practical terms, silvopastoral system allows higher stocking rates and more beef production per hectare compared to monoculture forage system and provided opportunities for economic diversification (e.g. wood, carbon and also tourism).

Environment – the environment benefits generated by SPS are related to: higher biodiversity that provides the service of increased biological control of insects and enrichment of fauna and flora; increased carbon sequestration by trees, the shade from the trees provides a reduction in temperature (animal welfare) and natural source of organic matter, phosphorus and potassium which reduces the need to use chemical fertilizer for grasses.

Livestock-based solutions

- Problem - Monoculture pasture degradation is an enormous social economic and environmental problem in Brazil
- Approach to Natural regeneration of native trees and bushes associated to grass forages is one sustainable option to implement silvopastoral system

Results and evidence

- The profit from the livestock system has steadily increased in comparison with traditional monoculture systems based exclusively on Brachiaria.
- The resulting high biodiversity, fauna and flora from silvopastoral practices has positively changed the farm landscape, which has enhanced soil conservation, forage biomass and animal comfort.
- These are the facts that push farmers for the silvopastoral practices direction.

Multiplier effects

- There are a particular multi-stakeholder aspects involved in this case study: farmer (veterinary) and myself (agronomist & animal scientist) and colleagues from several institutions (CIPAV, INTA, Produce etc.)
- This strategy could also increase the adoption of the system by other farmers and consequently improves the sustainability of livestock production in the tropics.
- The encouragement of other farmers for the adoption of the system depends on the opportunity of farmers to visit other farmers already working with the system and getting economic benefits
  - This farm has 500 visitors per year
- It is expected that the economic, social and environmental benefits of silvopastoral system could be used for further policies and payment for ecosystem services (Challenges).

Contacts: Rogerio M. Mauricio – rogeriomauricio@ufsj.edu.br

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