



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

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## Key Messages

*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 (SPS) as one alternative to conciliate cattle production, environmental conservation and social improvements.

*Social* – the higher biomass produced in the SPS gives security for cattle nutrition and financial stability to the farmer and flow on benefits to the farm worker families and community promoting a better social security.

*Economic* – SPS promotes greater forage biomass production throughout the year, improving the economic stability and also the profits. In practical terms, SPS allow higher stocking rates and more beef production per hectare compared to monoculture forage systems and providing opportunities for economic diversification (e.g. wood, carbon and also tourism).

*Environment* – the environment benefits generated by SPS are related to: higher biodiversity providing 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.



This case study is working towards to the above SDG's

## Livestock-based solutions

- *Problem* - monoculture pasture degradation is an enormous social economic and environmental problem in Brazil
- *Solution* - approach to natural regeneration of native trees and bushes associated to grass forages is a 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 outcomes encourage farmers to adopt silvopastoral practices.

## Multiplier effects

- This case relies on the multi-stakeholder aspects: farmer (veterinary) and myself (agronomist & animal scientist) and colleagues from several institutions (CIPAV, INTA, Produce etc.)
- The outcomes achieved with SPS could also increase the adoption of the system by other farmers and consequently improves the sustainability of livestock production in the tropics.
- Scaling up the adoption of SPS depends on the opportunity for farmers to visit and learn from other farmers already working with the SPS and demonstrating the benefits.
  - This farm has around 500 visitors per year.
- It is expected that the economic, social and environmental benefits of SPS could be used for further policies and payment for ecosystem services (Challenges).



Mona Lisa farm (900 ha) – silvopastoral system including native trees, bushes and braquiaria grass

## Partners

- ✓ Global agenda for sustainable livestock (AN2)
- ✓ Agriculture research for development (CIRAD)
- ✓ Agresearch (NZ)
- ✓ Research center for sustainable agricultural production systems (CIPAV)
- ✓ Federal University of Sao Joao Del-Rei (UFSJ)
- ✓ Brazilian sponsors: FAPEMIG-PPM, CNPq, CAPES
- ✓ Brazilian and international farmers associations

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