

Integration of production systems as a strategy for climate change mitigation and adaptation

ARGENTINA, BRASIL, CHILE, REPÚBLICA DOMINICANA, URUGUAY, ESTADOS UNIDOS, REINO UNIDO



Webstory



Technological solution

The proposed technological solution consists of implementing and validating silvopastoral systems (SPS) as a sustainable intensification strategy to improve resilience and reduce the environmental footprint of livestock production in Latin America and the Caribbean. The innovation integrates trees, pastures, and livestock into production systems adapted to different productive conditions in Argentina, Brazil, Chile, Uruguay, and the Dominican Republic. The project will develop regional protocols to quantify carbon sequestration, greenhouse gas (GHG) emissions, net carbon balance, and carbon footprint, together with indicators of soil health, biodiversity, productivity, and economic sustainability. The proposal aims to demonstrate that integrating trees into livestock systems improves ecosystem services, animal welfare, and productivity, promoting climate-smart and sustainable livestock systems.



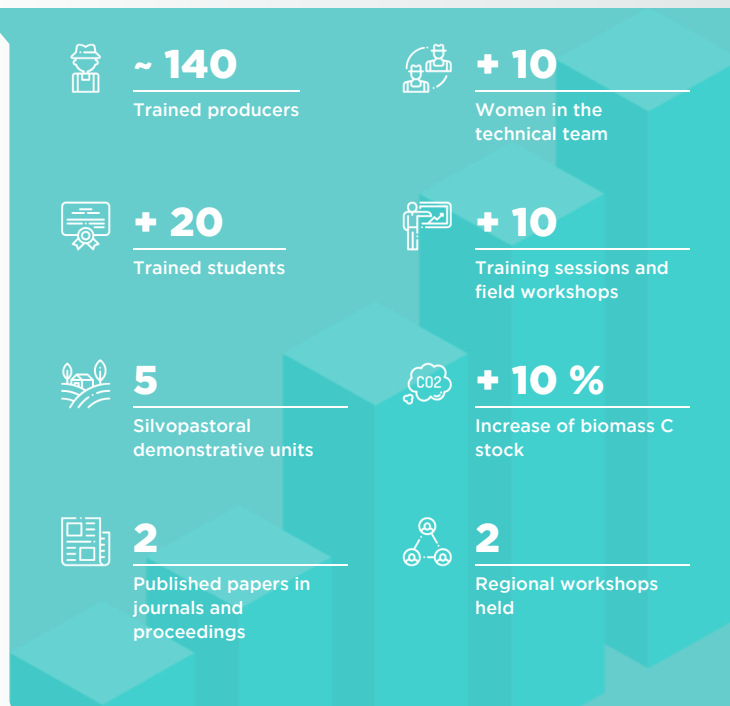
Technological description

This project seeks to complement the technical-productive and economic information generated by the FONTAGRO projects "Multipurpose silvopastoral systems and family livestock farming in Peru and Colombia" and "Network of resilient farms with sustainable forest management", providing data on the impact of SPSs on carbon sequestration, GHG emissions and soil ecosystem services. Furthermore, having region-specific determinations will enable greater accuracy in the calculations compared to those generated using the IPCC emission factors, which may overestimate real values. Most of the countries participating in this proposal lack their own GHG emission factors and carbon balances for integrated production systems (SPS). Obtaining these data would provide a valuable tool to be used in their National Communications on climate change. The total number of direct beneficiaries will be 2,510 people, distributed among the participating countries.



Impacts and results

Expected outcomes include improved territorial stability for families, an increase in the demand for labor, an increase in income and a decrease in risk, resulting from greater livestock productivity, production diversification, added value and improved marketing of forest products. Knowledge of carbon sequestration, added to the generation of emission factors that allow calculating the net balance and footprint of carbon in SPSs, will allow the evaluation of the mitigation potential of these systems. Not least important is the information on the impact on soil ecosystem services, which will permit evaluation of the resilience capacity of these systems at a national and regional scale. The expected socio-economic impacts are correlative to the environmental ones: increases in the carbon content in the systems are associated with greater productivity and resilience of the system against the effects of climate change.



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