

Agroforestry Systems: A Sustainable Strategy of the Agricultural Systems of Cumaral (Meta), Colombia

Authors : Amanda Silva Parra, Dayra Yisel García Ramirez

Abstract : In developing countries, agricultural "modernization" has led to a loss of biodiversity and inefficiency of agricultural systems, manifested in increases in Greenhouse Gas Emissions (GHG) and the C footprint, generating the susceptibility of systems agriculture to environmental problems, loss of biodiversity, depletion of natural resources, soil degradation and loss of nutrients, and a decrease in the supply of products that affect food security for peoples and nations. Each year agriculture emits 10 to 12% (5.1 to 6.1 Gt CO₂eq per year) of the total estimated GHG emissions (51 Gt CO₂ eq per year). The FAO recommends that countries that have not yet done so consider declaring sustainable agriculture as an essential or strategic activity of public interest within the framework of green economies to better face global climate change. The objective of this research was to estimate the balance of GHG in agricultural systems of Cumaral, Meta (Colombia), to contribute to the recovery and sustainable operation of agricultural systems that guarantee food security and face changes generated by the climate in a more intelligent way. To determine the GHG balances, the IPCC methodologies were applied with a Tier 1 and 2 level of use. It was estimated that all the silvopastoral systems evaluated play an important role in this reconversion compared to conventional systems such as improved pastures. and degraded pastures due to their ability to capture C both in soil and in biomass, generating positive GHG balances, guaranteeing greater sustainability of soil and air resources.

Keywords : climate change, carbon capture, environmental sustainability, GHG mitigation, silvopastoral systems

Conference Title : ICAA 2022 : International Conference on Agroforestry and Agriculture

Conference Location : Cancun, Mexico

Conference Dates : April 07-08, 2022