

Sustainable tropical dairy systems to contribute to food security in Colombia and Ecuador

COLOMBIA, ECUADOR



Webstory



Technological solution

The technological solution consists of an integrated climate-smart dairy production model, based on the diagnosis, design, validation, and adoption of sustainable cattle-feeding strategies in traditional dairy systems in Cauca, Colombia, and Manabí, Ecuador. This model combines the productive, nutritional, forage, and environmental characterization of dairy farms with the formulation of more efficient, eco-efficient feeding management practices adapted to the local context. Based on the information generated, alternatives will be implemented to improve animal productivity, optimize the use of pastures and inputs, reduce production costs, and decrease environmental impacts, including emissions associated with the production system. The solution is complemented by technical assistance, technology transfer, and knowledge management processes so that producers and communities can appropriate the validated practices, close technological gaps, and move toward more resilient.



Technological description

The proposed solution consists of implementing climate-smart production strategies to transform traditional dairy systems in Cauca (Colombia) and Manabí (Ecuador) into more eco-efficient, resilient, and sustainable models. To achieve this, a comprehensive assessment will be carried out on productivity, forage availability, and the nutritional profile of feed sources, together with the measurement of environmental parameters in dairy systems. Based on this information, sustainable cattle feeding strategies will be designed and validated to improve productive efficiency, optimize the use of pastures and inputs, reduce costs, and decrease environmental impacts. In addition, the solution includes technical assistance, technology transfer, and social appropriation of knowledge processes to strengthen capacities, close technological gaps, and facilitate the adoption of sustainable practices by producers and communities.



Impacts and results

It is expected that the productivity of the dairy farms intervened in Cauca and Manabí will increase by at least 20%, measured in liters of milk per hectare per year, through the implementation of climate-smart production strategies. Likewise, a nutritional, productive, and environmental characterization of traditional and eco-efficient dairy systems will be obtained, which will serve as a baseline for decision-making. Sustainable cattle feeding strategies are also expected to be validated in order to improve productive efficiency, reduce costs, and decrease environmental impacts. Additionally, the capacities of producers and stakeholders in the agricultural sector will be strengthened through technical assistance, technology transfer, and the use of ICTs, promoting the adoption of sustainable practices, greater climate resilience, and an effective contribution to regional food security.



+ 2000

Direct beneficiaries



20 ha

Area under silvopastoral and improved forage management



20

Dairy farms adopting sustainable strategies



- 20 %

Enteric methane emission reduction



+ 20 %

Dairy productivity increase



+ 15

Students and scientific-technical staff trained

PARTICIPATING ORGANIZATIONS



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