

Satellite monitoring of quantity and quality of available biomass in pastoral livestock systems

ARGENTINA, COLOMBIA, COSTA RICA, URUGUAY



Webstory



Technological solution

Lower the cost of estimating in real time and with adequate precision the quantity and quality of biomass available in livestock systems in LAC through a satellite tool.



Technological description

Having a simple method to know forage mass and quality in real time is key to making more accurate management decisions that improve efficiency and profitability. Satellite estimates require local calibrations. A network of measurements will be established and a monitoring tool will be developed.



Impacts and results

Pastoral livestock production contributes 46% of GDP and is key to LAC's food and social security. Currently, pastoral bovine production systems face the challenge of increasing their profitability by reducing their environmental impact, since high costs and a growing concern about their contribution to global warming threaten their development. Knowing the quantity and quality of available biomass is key to making management decisions that improve the productive efficiency and profitability of these livestock systems, while enabling the monitoring, reporting and verification of the effect of GHG emission mitigation strategies. However, frequent field measurements that cover an entire property are expensive and often impractical. Over the last five years, the availability of satellite data on a spatial and temporal scale compatible with weekly management decisions of individual paddocks has advanced enormously, and prediction models of the quantity and quality of biomass based on remote sensors are starting to appear. For this technology to result in productive improvements, it is necessary to have reliable, locally validated models and mechanisms that make the information available to different users. The main objective of this project is to lower the cost of estimating in real time and with adequate precision the quantity and quality of biomass available in pastoral livestock systems through a satellite tool.



3
PhD theses in progress



79
Researchers and technicians involved in biomass sampling



18
Training and field days



1
Protocol and App for standardized field sampling



0.56
R2 of predictive models for pastures (preliminary)



2
Satellite tools developed being validated

PARTICIPATING ORGANIZATIONS

MAIN DONORS

