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Use of legumes in livestock systems in Latin America and the Caribbean: cooperation platform

The use of legumes in the livestock can produce improvements in animal productivity, the biological fixation of N, the reduction of greenhouse gas emissions (GHG) and soil carbon sequestration.

4
Publication. Technical report

48
Open training and for the workgroup.
Workshops. Field days.

15
Postgraduate training for project members

5%
Cumulative emission difference of N-N-1 in soil with cattle grazing

The use of legumes can help us produce more meat emitting less greenhouse gases?

The implemented initiative

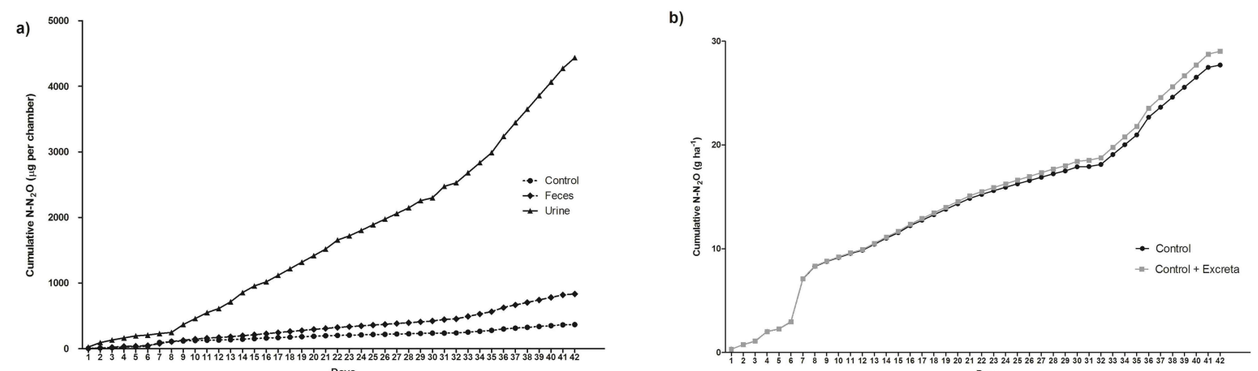
The cooperation platform seeks to improve livestock production systems in LAC through the introduction of legumes in pastures. A main issue is how to produce more meat per unit of eqCO2 emitted and thus be able to clarify about how emitter the livestock activity really is, as well as identify ways to mitigate these emissions. For this, issues such as the use of forage legumes and their relationship with the Biological Fixation of N, the sequestration of C, the emission of GHG, and the impact on animal productivity are addressed.
An important part of the project is dedicated to knowledge management and training, being key the dissemination of knowledge generated in different types of formats, which are available to a wide audience.

Partnering, cooperating and sharing knowledge: the key to making livestock production in the region more efficient

The technological solution

The member countries of the platform have in common that beef production activity is very important for their economies. All also can use legumes as a forage resource, very different but with common characteristics, such as the ability to fix N from the atmosphere. In this way, a saving of fertilizers is generated, and an important contribution of N for plant nutrition and to contribute to the sequestration of C from soils. From this balance between emissions and carbon sequestration is the possibility of mitigating the emission of gases from these livestock production systems. Saving in fertilizers also implies significant economic and energy savings, and an environmental benefit.
This program trains human resources within the framework of a collaborative and complementary capacity setting.

Winter emissions of N_2O accumulated, in soils with cattle excreta under grazing in the Pampa Deprimida (Province of Buenos Aires, Argentina)



MÁS INFO

Results

Results have been obtained, so far partial, on emissions of N_2O and methane from soil, BNF and in some countries carbon profiles have also been carried out. There are results that show the importance of BNF reflected by the large proportion of N in the plant coming from the air. What has been obtained about C profiles does not yet show conclusive results. In some situations, higher emissions from grazed fields are observed, which should not lead to erroneous interpretations that production generates higher emissions, since all sources of emission and mitigation must be calculated, work still in process of execution. Technical-scientific capacities are being strengthened through thesis, internships, workshops and collaboration meetings between referents of each topic addressed by the project, thesis students and participating technicians.

Main donors

Participating Organizations