Grant Proposal

Gran Chaco Cattle: more calves, less methane

Last updated: 01/2023

A. PROJECT INFORMATION	
Project Title	**Gran Chaco Cattle: more calves, less methane**
Project duration	36 months
Area of methane emission reduction	Agriculture
Project summary Max. 250 words	The project aims to promote sustainable and climate-smart cow-calf systems in the South American Chaco (Gran Chaco), covering Argentina, Bolivia, and Paraguay. The main objective is to assess the impact of critical technological innovations (TI) -particularly in reproductive, herd and forage management- on productive efficiency, economic stability, and the reduction of enteric methane emissions. To achieve this, 26 pilot sites will be established: 12 in Argentina (70% of the Gran Chaco's cattle, distributed manly in Salta, Santiago del Estero, Chaco and Formosa), 8 in Bolivia (18% of the cattle in Santa Cruz, Chuquisaca and Tarija), and 6 in Paraguay (12% of the cattle in Presidente Hayes and Boquerón). In these sites, the TI will be adapted, and technical advisors and producers will be trained and supported in adopting these technologies. Additionally, the project will promote the dissemination of results and technological practices to other technicians and producers in the region. The project's hypothesis is that, starting from a baseline of low productivity and high emission intensities (below 50% weaning rates, low beef production per cow and high emissions per cow), the implementation of these TI could lead to productivity increases of at least 30%, with an average reduction in emission intensity of at least 30% in scenarios with higher adoption rates (based on hypotheses from recent studies). The project directly contributes to achieving SDGs 2, 13, and 15.
Geographic implementation of the project	Gran Chaco Region in Argentina, Bolivia and Paraguay

Global, region, country (where applicable)	
Grant duration	36 months
Grant Start date	10/01/2025
Grant End date	09/30/2028

B. ORGANIZATIONAL BACKGROUND	
Organization name	Fundación ArgenINTA
Organization website	www.argeninta.org.ar
Organizational description Briefly comment about the Organization's mission, vision, history and work related to the area. Max 200 words.	Fundación ArgenINTA was established in 1993 by Argentina's National Institute of Agricultural Technology (INTA) as a non-profit organization to promote sustainable development with a regional and territorial focus. Its mission is to foster public-private collaboration by supporting agricultural research and extension. Fundación ArgenINTA has implemented numerous projects in partnership with national and international institutions, focusing on technological innovation and environmental sustainability.
Type of Organization Specify if your organization is for-profit or a charitable Organization. Please specify your fiscal sponsor (if applicable).	Non profit organization
Is your organization US based? Is your organization US-based?	No. Address: Moreno 437, Ciudad Autónoma de Buenos Aires, Argentina.
Primary Contact Include **one focal point** and additional contacts for specific topics (communications, administration), as necessary. Specify name, title, and email.	Ernesto Fernández International Operations Coordinator EFernandez@argeninta.org.ar
Signatory Contact if grant is approved Include name, title and email	Santiago Derqui Executive Director Sderqui@argeninta.org.ar
Personnel A list of key personnel who will implement the grant and their qualifications (brief resume, two-three lines per each max.)	**Alejandro RADRIZZANI BONADEO**: Agronomic Engineer, PhD in Agricultural Sciences. Over 30 years' experience in research, project management, agricultural consulting, and academic teaching. Expert in pastoral and silvopastoral

	systems in the Chaco region. He has published over 30 scientific papers on tropical pastures and silvopastoral systems, disseminated articles and videos on these topics, and has been a speaker at conferences and technical meetings. Currently: coordinator of the National Program of Forages, Pastures and rangelands at INTA. **Alejandro VALEIRO:** Agronomic Engineer, MSc in Agricultural Sciences. Over 40 years' experience in research, project management, agricultural consulting, feasibility studies, value chain analysis, project evaluation and sustainable rural development. Currently, he works as an independent consultant. **Claudia FAVERIN:** Biologist with an MSc in Animal Production and a Doctor in Animal Science, with 30+ years of experience in research and teaching. Her work focuses on pasture-based beef systems, grazing management, and GHG mitigation. She held leadership and coordination roles at INTA, including national and international projects. Currently, she works as an independent consultant and university lecturer. **Marcelo PAMIES:** Agricultural Engineer from UNNE, currently pursuing a MSc in Animal Production with a focus on conserved forages. Researcher at INTA Colonia Benítez (Chaco), where he coordinates a project to improve beef cattle competitiveness in eastern Chaco. His work focuses on tropical pastures, conserved forages, and beef cattle production. **Juan Carlos RIVERA GARCÍA**: Veterinarian and livestock project leader at FEGASACRUZ in Chuquisaca and Tarija, Bolivia, where he coordinates initiatives to improve productivity and sustainability in the cattle sector. He also works as a technical advisor for producers and institutions, specializing in herd management, animal health, and pasture-based systems. In addition to his advisory role, he is actively involved in cattle production. **José Manuel VIRIEUX:** Veterinarian and leader of livestock development projects at FEGASACRUZ in Santa Cruz, Bolivia. He works to strengthen productivity and sustainability in the beef sector through the implementation of innovative

	practices and technical support. His areas of expertise include herd management, animal health, and pasture utilization. Alongside his institutional role, he is also engaged in cattle production at the field level. **Antero CABRERA**: Agronomic Engineer with an MSc in Environmental Sciences. Based in the Chaco department, she coordinates sustainable livestock projects in the Paraguayan Chaco, focusing on the integration of environmental management and productive efficiency. Her work includes the promotion of best practices in pasture management, animal health, and adaptation to climate change, in collaboration with local producers and institutions. **Maura ORTIZ ESPINDOLA**: Veterinarian and livestock project leader at the Beef Cattle Department of IPTA (Paraguay). He leads research and development initiatives aimed at improving the productivity and sustainability of beef cattle systems in the Paraguayan Chaco and other regions. His work focuses on genetic improvement, reproductive management, animal health, and pasture-based production, in collaboration with producers and national institutions.

C. FINANCIAL INFORMATION

Grant requested from GMH (USD)	**$582.683**		
Type of grant	• Project		
Proposed disbursement schedule	**Payment** Amount	**Payment** Percentage of the total grant	**Date**
	1° Payment	20%	
	2° Payment	20%	

		3° Payment	20%	
		4° Payment	20%	
		5° Payment	15%	
		6° Payment	5%	
Other funding If your proposal is a project grant, please indicate other sources of funding and/or other Organizations supporting this project.	**Institution** Specify top 5	**Amount**	**Percentage**	**Status** Not submitted, pending decision or secured
	INTA Argentina	160,000	18.3%	Secured
	FEGASACRUZ Bolivia	105,000	12%	Secured
	FCA-UNA Paraguay	25,000	2.8%	Secured
	Total counterpart	**290,000**		**In-kind**
	TOTAL project	872,683		
Lobby Does the project include any lobbying?	• No			
Re-granting Do you intend to regrant any of the funding you receive through this grant?	• No			
Minors Will this grant be used to	• No			

support work with minors (individuals under age 18)?	

D. OVERALL PROJECT OBJECTIVES

- This section outlines the overall goals or aims of your project. Please ensure your goals are SMART (Specific, Measurable, Achievable, Relevant, and Time-bound).
- What change in the real world will this project work/contribute towards?
- Objectives will be tied to outcomes and activities in the activities section.
- Maximum 250 words.

General Objetive:

To validate technological innovation (TI) strategies for family cow-calf systems in the Gran Chaco that increases productivity by at least 30% and reduces methane emission intensity by up to 30% within a 3-year timeframe, with potential for regional scalability.

Specific Objectives:

- Implement critical technological innovations (TI) (controlled seasonal breeding, herd and weaning management, effective forage planning, establishment of pasture and silvopastoral systems, strategic supplementation plans, etc.) across 26 pilot sites in Argentina, Bolivia, and Paraguay during the first project year.

- Measure the impact of TI adopted on productivity and profitability at all 26 pilot sites using comparable indicators collected annually before (baseline pre-TI) and after project implementation (completion post-TI).

- Estimate and compare methane emission intensity before and after intervention using an INTA-developed calculator adapted to the region.

- Train and support a network of advisors and extension agents to provide technical assistance to pilot sites and training to producers throughout the project duration.

- Communicate and disseminate TI and project results to producers, technicians extensionists and other actors of the livestock sector in the region.

E. THEORY OF CHANGE (ToC)

Problem Statement What problem(s) are you trying to address and where? Explain also the root causes of the problem. Max. 150 words.	The limited adoption of technology among smallholder livestock producers in the Gran Chaco region explains their low beef cattle productivity rates (46% weaning rate and low calf weight per cow per year), coupled with high methane emission intensities

	and carbon footprints per cow. As breeding herds generate disproportionately high emissions while producing minimal output, their contribution to enteric CH_4 emissions significantly exceeds that of other cattle populations in South America. Furthermore, this situation leads to the loss of additional ecosystem services through soil degradation and deforestation in a biome that represents South America's second-largest native forest reserve.
If... the successful output of your activities	The following critical technologies are incorporated as a sustainable intensification transition from few to more calves per cow and from high to less methane emission intensity: - Controlled seasonal breeding (organizing the reproductive management of breeding herds with artificial insemination). - Monitoring of body condition scoring (BCS) of cows at key times of the year (e.g., pre-breeding to select which cows enter service - selling others, preferably after fattening, at calving and weaning). - Weaning management (e.g., creep-feeding, early and precocious weaning) to maintain cow BCS. - Herd health management (e.g., bull testing, and control of ecto- and endoparasites) - Forage planning to match animal nutritional needs throughout the year, including stocking rate adjustments to optimize productivity and reduce climate-related risks. - Pasture and silvopastoral system establishment and management to increase forage production and quality (e.g., improving pasture establishment and weed/regrowth control). - Grazing management to enhance utilization efficiency using AgTech tools (e.g. pasture management app and 3RWeb). - Preparation and use of fodder reserves (e.g. hay and silaje). - Implementation of strategic supplementation plans.

Then… the change that has been made as a result to the successful output of your activities	The intervention will increase pregnancy/weaning rates without necessarily expanding herd size, thereby improving feed conversion efficiency. Given that baseline productivity at many pilot sites may fall below 80 kg/cow/year (weaning rates <50% with low calf weights), conservative modelling suggests critical technology adoption could deliver: - Average gains of 30% (reaching ~104 kg/cow/year) - Potential for greater improvements among producers with: • Higher adoption rates • Better infrastructure • More intensive technical support This aligns with documented outcomes from the FONTAGRO-NZ–GRA project (2021–2024), where similar interventions achieved comparable efficiency gains.
Because… Explicitly state the underlying assumptions of why the successful output of your activities will make the positive change you want to see	The promoted technologies have demonstrated viability through: a) Proven track record: successful validation in the prior FONTAGRO/New Zealand Ministry of Primary Industries project (see webstory). b) Scientific validation: peer-reviewed evidence supporting their productivity and sustainability benefits. c) Strategic synergies: leveraging institutional partnerships for regional scaling. d) Capacity building: establishing permanent technical expertise at local levels.
Context Explain the context against which the initiative is taking place. Also, provide information regarding risks, and long-term sustainability, if possible. Max. 250 words.	The Gran Chaco is the second largest forest biome in South America and one of the most threatened ecosystems. Livestock production dominates land use in the region but exhibits very low efficiency levels: breeding systems have reduced weaning rates and generate a disproportionately high share of enteric methane emissions. Climate variability, weak technical assistance, and limited access to innovations reinforce productivity and resilience constraints. This initiative builds on the achievements of the FONTAGRO-New Zealand project (2021–2024), which demonstrated the viability of simple and scalable innovations -such as controlled breeding seasons, efficient grazing management, and silvopastoral systems- to increase livestock productivity and reduce emission intensity. These strategies also offer co-benefits in terms of biodiversity, animal welfare, and ecosystem restoration.

	Among the main risks are low participation of key stakeholders, turnover of local personnel, or changes in institutional priorities. These will be mitigated through partnerships with committed institutions (INTA, FEGASACRUZ, FCA-UNA and IPTA), clear governance mechanisms, and flexible implementation adapted to local capacities. Long-term sustainability is supported by co-financing commitments, integration with public and private extension services, and the training of a new generation of rural advisors. The promoted technologies are low-cost and proven effective, increasing the chances of widespread adoption. The pilot sites will function as training and regional replication hubs.

F. ACTIVITIES, OUTPUTS, AND TIMELINES

This section is intended to provide an easily accessible overview of the outputs and activities within the project and what they are intended to achieve. You can restructure this section to fit the unique structure of your project, but keep the intention of providing an easily accessible overview of the project. You can add more rows to this section if necessary.

Activities Describe one or more activities to reach these outputs	**Outputs** Tangible products or services as a result of activities	**Timeline** Approximate due dates for the outputs
Pilot sites selection: Identification and establishment of 26 representative producers in Argentina, Bolivia, and Paraguay.	Georeferenced list of pilot sites. Baseline report with productive and environmental indicators. Agreements with producers discussing and defining: - The tools to be used; - The targets to be set (and their indicators); and - The work plan for each pilot site.	Dec 2025 – Jul 2026
Application of TI such as controlled seasonal breeding, herd and weaning management, Forage planning, establishment of pasture and silvopastoral systems, fodder reserves and strategic supplementation.	26 pilot sites with implemented technologies → Technical implementation records by country.	Apr 2026 – Dec 2027
Monitoring of productivity indicators and CH_4 estimates using the adapted INTA calculator	Monthly monitoring of productive indicators using the "Livestock Management" App Updated databases per pilot site Emission estimates using adapted INTA calculator Annual technical report Comparative pre- and post-intervention analysis	30 Set 2028
Training of technical advisors, extensionists and producers and **dissemination** of technologies and project results.	Field days (2 per year, per pilot site), workshops and visits → trained rural advisor network; production of adapted materials and use of digital platforms	
Final evaluation: impact analysis and engagement with public and private stakeholders..	Impact analysis → Final report with scaling recommendations. Interinstitutional dialogue and post-project plan.	

G. EXPECTED OUTCOMES AND INDICATORS

Add rows as needed.

Outcomes Benefits or changes resulting from the outputs.	**Indicators** How will you know that change has happened? Please provide at least one measurable and trackable indicator per outcome. Indicators should be directly influenced because of the implementation of the initiative and the attainment of the corresponding outcome.
Cow-calf systems with validated TIs to increase livestock productivity	26 pilot sites with 30% higher productivity (weaning rate and kg of calf/cow).
Reduction in methane emission intensity	30% lower emission intensity (kg CH4/kg beef produced).
INTA emissions´calculator adapted for the Chaco region	The INTA calculator platform (similar to the RAMP IFAD Project development) adapted and tested (Excel spreadsheet version) for estimating GHG emissions (with methane disaggregated) in beef cattle systems of the Chaco region.
Trained technical extensionists, advisors and producers	Network of extension agents, advisors and producers trained in TIs for beef cattle improvement.
Dissemination materials to promote the adoption of technological innovations among other livestock producers in the region	At least one instructional booklet with a descriptive video for each of the technologies implemented in the pilot site
Project results dissemination	At least 1 report and 1 peer-reviewed scientific publication on project outcomes.

H. KEY PARTNERS

Highlight potential re-grantees, collaborations or partners in a consortium. Briefly describe their role in the project (2-3 sentences each)

INTA Argentina: General technical coordination and implementation in Argentina. INTA will lead the project's technical coordination and oversee pilot site implementation. Brings extensive experience in silvopastoral systems and carbon assessment.

FEGASACRUZ: Implementation in Bolivia and liaison with producers. Will coordinate project activities in Bolivia, facilitating connections with local producers and contributing technical expertise in Chaco livestock systems.

FCA-UNA: Execution in Paraguay and local training. Will lead project implementation in Paraguay, including pilot site selection and training of technicians and students in sustainable livestock practices.

IPTA (Paraguayan Institute of Agricultural Technology): as an associated institution will provide key technical and territorial capacities for project execution in Paraguay, in coordination with FCA-UNA.

In addition to the main implementing institutions, the project benefits from a broader network of key stakeholders who will play relevant technical, institutional, and territorial roles.

Other involved public and private entities include:

- Provincial Production Ministries (Argentina: Chaco, Formosa, Salta, and Santiago del Estero)

- Departmental and municipal governments (Bolivia and Paraguay), facilitating territorial access and supporting producer outreach

- National rural extension services (INTA Argentina; INIAF Bolivia, IPTA Paraguay) and local services (municipalities)

- Private veterinarians and advisors, participating in implementation and training

- Producer associations: These organizations (e.g., AGASBOY, AGACOR, AGASCUEVO in Bolivia; the Rural Societies of Quimilí and Frías in Argentina) serve as direct links to livestock producers and will promote technology adoption through training programs, technical events, and advisory networks. Their active involvement ensures context-specific implementation and amplifies results beyond experimental settings. (Examples: Municipalities of Cuevo, Charagua, Camiri, Cabezas, and Lagunillas in Bolivia; Filadelfia and Estigarribia in Paraguay; Quimilí, Frías, Makallé, and Basail in Argentina.)