

# ***ARGENTINA 2030 - The Challenge of a Green Economy and Food Production for a Equitable Environmental Transition***

Opportunities for Collaboration

ARGENTINA  
PRODUCTIVA  
2030

Plan para el Desarrollo  
Productivo, Industrial y  
Tecnológico de Argentina

**UTIA** INSTITUTE OF  
AGRICULTURE  
THE UNIVERSITY OF TENNESSEE



Enrique Garcia Baumgartner - Sep. 26, 2023



**How to lose  
development in 100  
years ?**





País	Año 1895	
Argentina	↑	5.786
United States	↑	5.569
Belgium	↑	5.385
United Kingdom	↑	5.068
Switzerland	↗	4.426
Netherlands	↗	4.158
Germany	↗	4.044
Denmark	↗	3.902
Canada	↗	3.821
Spain	↗	3.726
France	↗	3.675
Norway	↗	3.468
Austria	↗	2.911
Chile	↘	2.472
Former USSR	↘	2.069
Italy	↘	1.983
Greece	↘	1.850
Japan	↘	1.500
Mexico	↘	1.326
India	↘	1.066
Colombia	↘	970
Brazil	↘	698
Peru	↘	467

1	Qatar	124,410	2018
—	Macau (China)	113,800	2018
2	Singapore	94,670	2018
3	Kuwait	84,250	2018
4	Brunei	82,180	2018
5	United Arab Emirates	75,440	2018
6	Luxembourg	72,200	2018
7	Switzerland	68,820	2018
8	Norway	68,310	2018
—	Hong Kong (China)	67,810	2018
9	Ireland	67,050	2018
—	Bermuda (UK)	66,810	2013
10	United States	63,690	2018
11	Netherlands	56,890	2018
12	Denmark	56,410	2018
13	Saudi Arabia	55,840	2018
14	Austria	55,300	2018
15	Iceland	55,190	2018
16	Germany	54,560	2018
17	Sweden	54,030	2018
18	Belgium	51,740	2018
59	Libya	21,340	2018
—	Iran	21,050	2017
60	Nauru	20,940	2018
61	Montenegro	20,930	2018
62	Argentina	19,870	2018



- ARGENTINA BEGAN THE 20TH CENTURY AS ONE OF THE WEALTHIEST PLACES ON THE PLANET.
- IN 1913, IT WAS RICHER THAN FRANCE OR GERMANY, ALMOST TWICE AS PROSPEROUS AS SPAIN, AND ITS PER CAPITA GDP WAS NEARLY AS HIGH AS CANADA.
- UNTIL THE 1930S, THE FRENCH USED THE PHRASE "*RICHE COMME UN ARGENTIN*" TO DESCRIBE THE FOOLISHLY RICH.
- THE CENTURY'S GOLDEN BEGINNING WAS FOLLOWED BY FAR LESS PROSPEROUS DECADES.
- OVER THE LAST 100 YEARS, ARGENTINA'S PLACE IN THE HIERARCHY OF NATIONS DROPPED PRECIPITOUSLY, FALLING BEHIND NOT ONLY EUROPE BUT ALSO MANY OF THE GROWING COUNTRIES IN ASIA.
- WHY DID A NATION DOING SO WELL END UP DOING SO POORLY? ARGENTINA'S MEDIOCRE 20TH-CENTURY PERFORMANCE MATTERS NOT ONLY FOR LATIN AMERICAN ECONOMIC HISTORY STUDENTS. THAT PERFORMANCE STANDS AS A WARNING TO THE WORLD. **NO COUNTRY IS TOO RICH TO FAIL.**

- ARGENTINA'S ECONOMIC HISTORY IN THE 20TH CENTURY IS A GREAT DRAMA FULL OF TRANSCENDENTAL ACTORS AND SEEMINGLY FULL OF MISSED OPPORTUNITIES AND EXTREME POLICY DECISIONS.
- FOR EXAMPLE, THERE IS NO DOUBT THAT THE COUNTRY ERECTED A SET OF TRADE BARRIERS THAT WOULD PROVE QUITE COSTLY TO THE ARGENTINE ECONOMY.
- 
- INSTITUTIONAL DECAY ALSO PLAYED AN IMPORTANT ROLE.
- A SUCCESSION OF ARGENTINE GOVERNMENTS AND DICTATORS INTERSPERSED CHOSE POLICIES THAT APPEARED NOT TO BE DESIGNED TO MAXIMIZE GROWTH.
- PART OF ARGENTINA'S DECLINE IS EXPLAINED BY VOTERS' BELIEFS ABOUT ARGENTINA'S UNPRODUCTIVE ELITE AND HOW THEY GET RICH THROUGH CORRUPTION AND FAVORITISM RATHER THAN HARD WORK AND CREATIVITY.



**So .... Why is  
Argentina an  
Opportunity Now?**



Argentina is Latin America's third largest economy after Brazil and Mexico, and the fourth in GDP per capita (considering the purchasing power parity). It is estimated that in 2023, its GDP Will reach about usd643.80 billion with GDP per capita at usd 13,767 (usd27,277 in ppp terms)

Argentina has comparative advantages in agribusiness and technological services, with high penetration in relevant international markets. In addition, the country has "Vaca Muerta," the second-largest shale gas reserve in the world and the fourth-largest shale oil reserve. It is also worth mentioning the "Lithium Triangle," shared with Chile and Bolivia, where Argentina has the second largest lithium reserves in the world.

Its population is 49 million inhabitants, is the fourth most populated country in Latin America, and occupies 32nd place in the global ranking of inhabitants per country. Most people (about 14.8 million people) live in the Buenos Aires metropolitan area. This represents 32% of the inhabitants of the national territory in only 0.5% of the surface.

Argentina's population is primarily young. 55% of people are under 35 years of age. Regarding education, almost 80% of the population is enrolled at the secondary level. At the tertiary level, the income rate is around 45%. This means that the population between 25 and 59 years of age currently has an average of 11.2 years of schooling, one of Latin America's highest indicators.



# Demographics

**Population:**  
**47,327,407**  
inhabitants

**Human Development Index (HDI):**  
**0,842**  
2<sup>nd</sup> in Latin America and 47<sup>th</sup> worldwide

**Adult population in the financial system:**  
**98,5%**<sup>4</sup>

**Urban households with computer and Internet access:**  
**64,2% and 90,4%**  
88 out of 100 people use mobile phones and 87 out of 100 use the Internet

**Tasa de crecimiento de la población:**  
**1,25%** (2023)

**University completion:**  
**21%**<sup>3</sup>

**Literacy rate<sup>1</sup>:**  
**99%**

**Age distribution:**  
**25,48%** under 15 years old  
**64,29%** between the ages of 15 and 65  
**10,23%** over 65 years old

**Population density:**  
**17**  
persons per km<sup>2</sup>

The Pampa region accounts for **68.1%** of the population, **46.2%** of which resides in the City and in the Province of Buenos Aires **92%** of the population lives in urban areas.



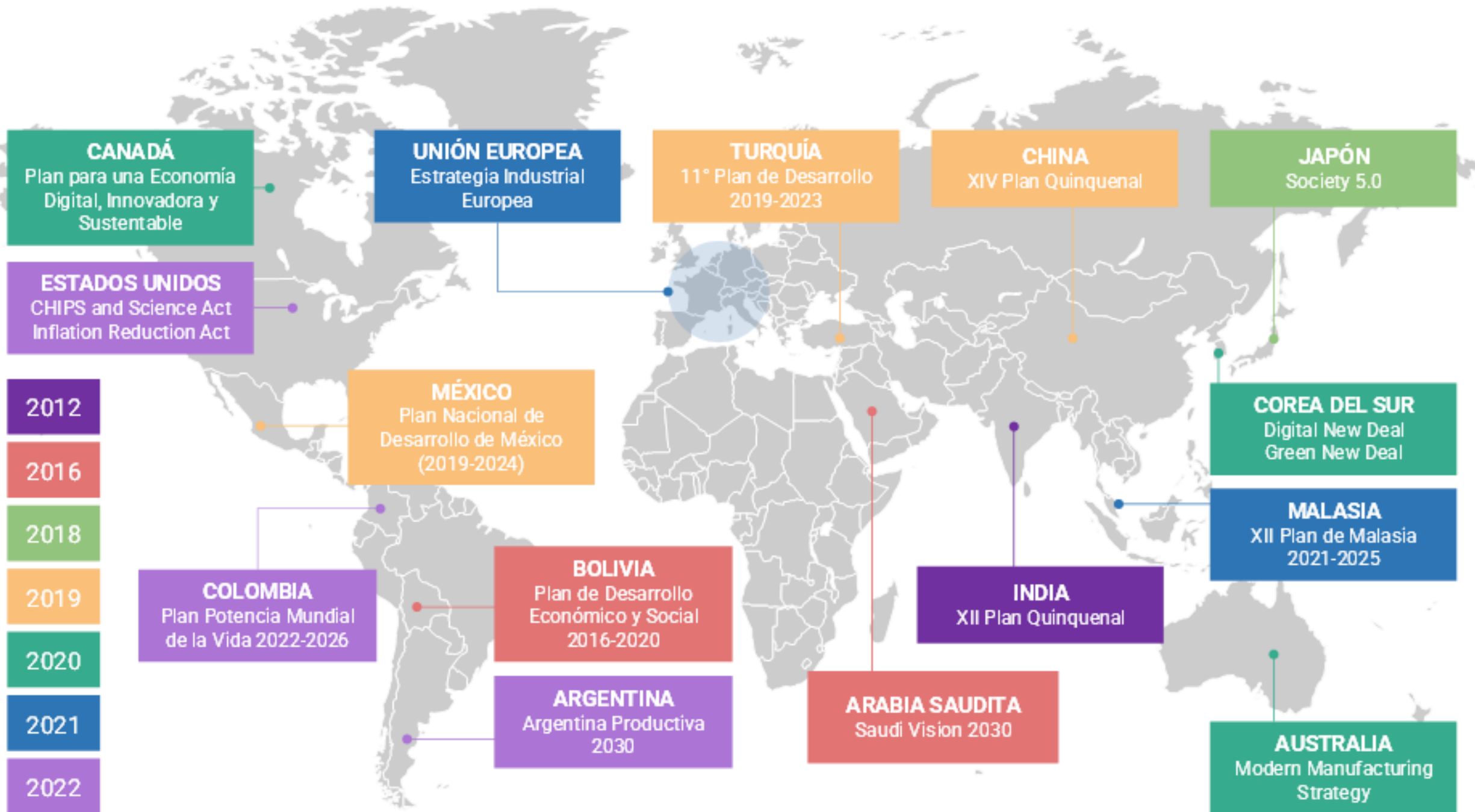
**Official language:**  
**Spanish**  
**English proficiency<sup>2</sup>:**  
**High**

<sup>1</sup> Age 10 and over can read and write.  
<sup>2</sup> Ranks 30<sup>th</sup> in the world and 1<sup>st</sup> in Latin America according to the Education First English Proficiency Index.  
<sup>3</sup> Population aged up to 64  
<sup>4</sup> Percentage of adult population with at least 1 account



# UNITED STATES – ARGENTINA, 200 Years of Friendship







# ARGENTINA PRODUCTIVA 2030

## Plan para el Desarrollo Productivo, Industrial y Tecnológico

Documento integrador  
Marzo 2023

# Argentina Plan ...

- Argentina Productive 2030 seeks to transform the country's productive framework to improve social, economic, and environmental indicators.
- The plan is organized into 11 priority themes to achieve these goals, all of which have a common structure.
- All are subdivided into thematic axes or projects, share key research and science sectors, production, economy, and technology and are supported by public policies.



MISSION

2

# Developing the Green Economy for a Fair Environmental Transition





# Developing a Green Economy for a Fair Environmental Transition (\*)



Promote a fair environmental transition that will allow progress toward the decarbonization necessary to mitigate climate change and reduce the environmental pressure of productive activities.

(\*) Argentina Productive 2030 (2023). Mission 2. Develop the green economy for a just environmental transition. Plan for Productive, Industrial and Technological Development - National Ministry of Economy.

# CORE 1 – Energy Transition

<b>Project 1</b>	Promote the production of goods and services to increase the share of renewable energy in the energy matrix.	
<b>Project 2</b>	Develop modular reactors for nuclear power generation.	
<b>Project 3</b>	Develop the low-emission hydrogen value chain at the local level.	
<b>Project 4</b>	Promote the local development of goods and services that increase industrial and residential energy efficiency.	



# CORE 2 – Circular Economy

## Project 5

Incorporation of circular economy logics, from the design of products and processes to recycling and final disposal, in as many sectors as possible.



### Así aportan los argentinos a la economía circular

**88%**

busca **productos amigables con el medioambiente** o productos que no contaminen.

**86%**

busca productos con **envases que se puedan reutilizar**.



**85%**

busca productos **que sean reciclables**.

**77%**

busca productos **de segunda mano o usados** como ropa, muebles, etcétera.

**73%**

busca productos **hechos con plásticos reciclados**.

as, Asociación Civil sin fines de lucro, especializada en plásticos y medioambiente.  
reunió 1.200 casos en Argentina con un público de más de 18 años.

#reciclemosjuntoslosplasticos

#movimientocircular

MISSION

6

**Adapting Food Production  
to the Challenges of the  
21st Century.**

# Adapting Food Production to the Challenges of the 21st Century(\*)

This Mission aims to address three major challenges: increasing Argentina's agricultural sustainability, promoting healthy food production and increasing the resilience of the agricultural sector

(\*) Argentina Productive 2030 (2023). Mission 6. Adapt food production to the challenges of the 21st century. Plan for Productive, Industrial and Technological Development - National Ministry of Economy

INFORMATION

PHOSPHORUS ZINC



and WATER

TEMPERATURE 32 °C

pH Control



# CORE 1 – Technologies to more sustainable food production

<b>Project 1</b>	Develop national capacities to provide the technologies that will enable the transition to a more sustainable food production.	
<b>Project 2</b>	Increase the sustainability of agricultural production through the development of bio-based inputs (bio-inputs for agriculture and livestock, including animal nutrition and health).	
<b>Project 3</b>	Strengthen agricultural and livestock productivity through the development of biotechnology applied to plant and animal genetic improvement.	



# CORE 1 – Technologies to More Sustainable Food Production

## Project 4

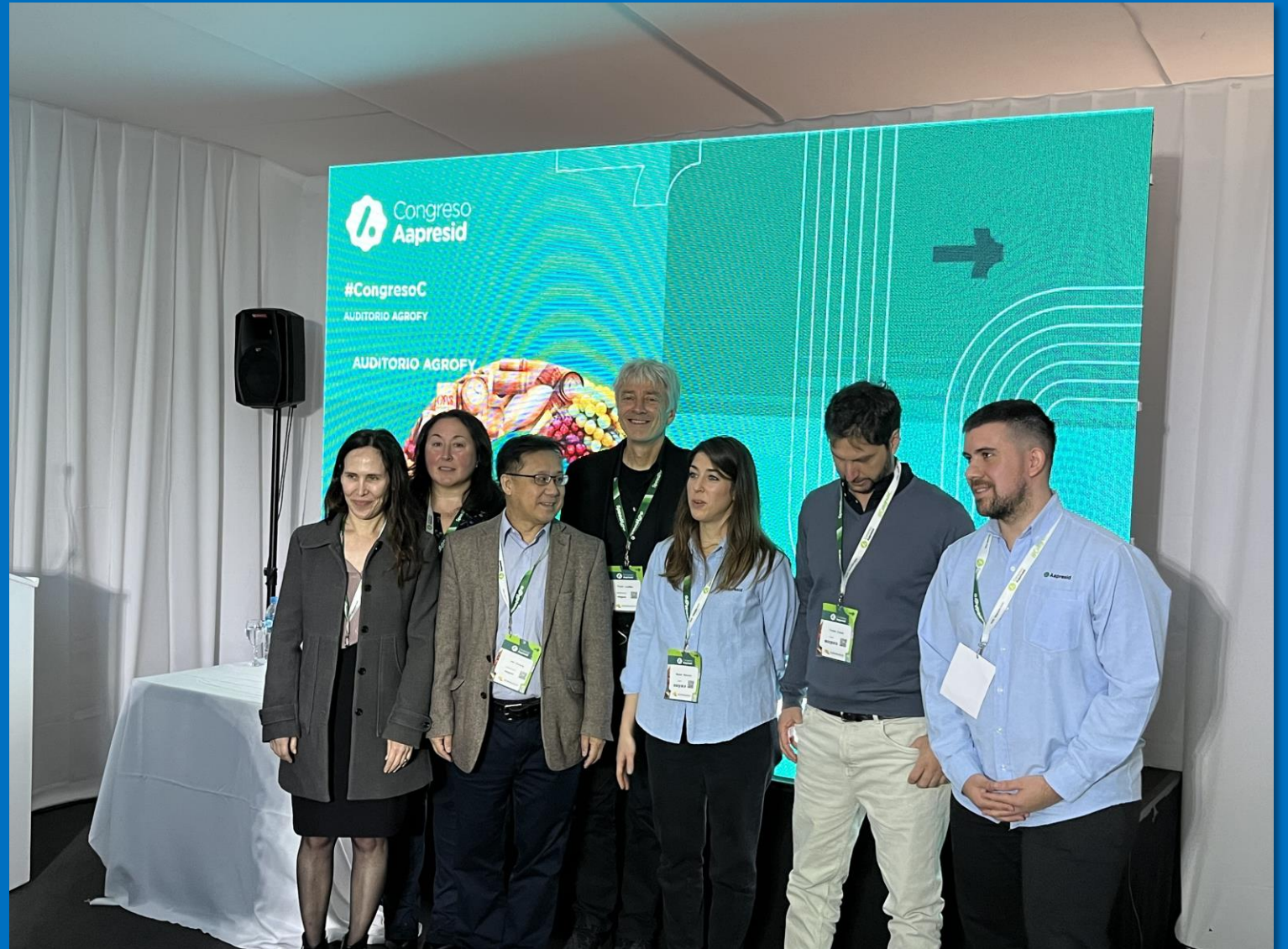
Promote healthy eating based on innovation and new food technologies (food tech, focusing on additives, new food ingredients and innovative foods).



# CORE 2 – Increasing Agricultural Resilience for Food Security and Foreign Exchange Generation

<b>Project 5</b>	Increase the resilience of agricultural production by adopting irrigation systems with water-efficient technologies.	
<b>Project 6</b>	Avoiding soil depletion through increased soil fertilization.	

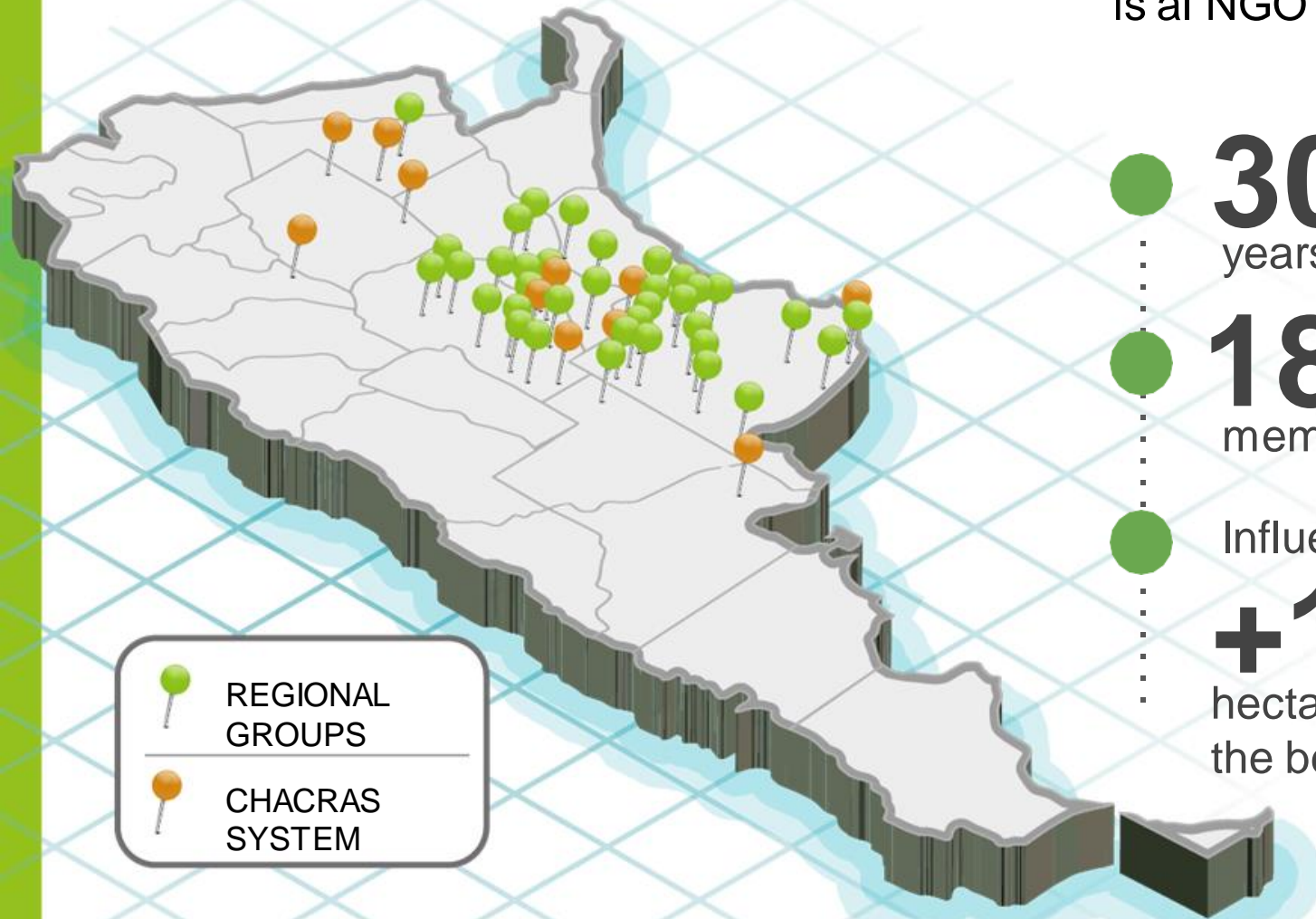
# About the M.O.U. with Aapresid...



# About Aapresid



The Argentine No-till Farmers Association (Aapresid) is an NGO comprised of farmers and agronomists.



● **30**  
years of history

● **1800**  
members

● Influence across  
**+11M**  
hectares using  
the best technology

● Present in **Argentina, South America, Africa**

● Participation in **international forums**

● Over **900**  
producers leading R&D  
projects in their own  
properties, on over 20  
different topics



# Aapresid's Mission



To promote **sustainable food, fibers, and energy production.**

## HOW DO WE DO IT?

- Developing **systems that optimize production with lower environmental impact.**
- Promoting **innovation in networks.**



# More about what Aapresid does...



## Aapresid's Regional Groups

This program leads **40 Regional Groups** in Argentina and overseas.

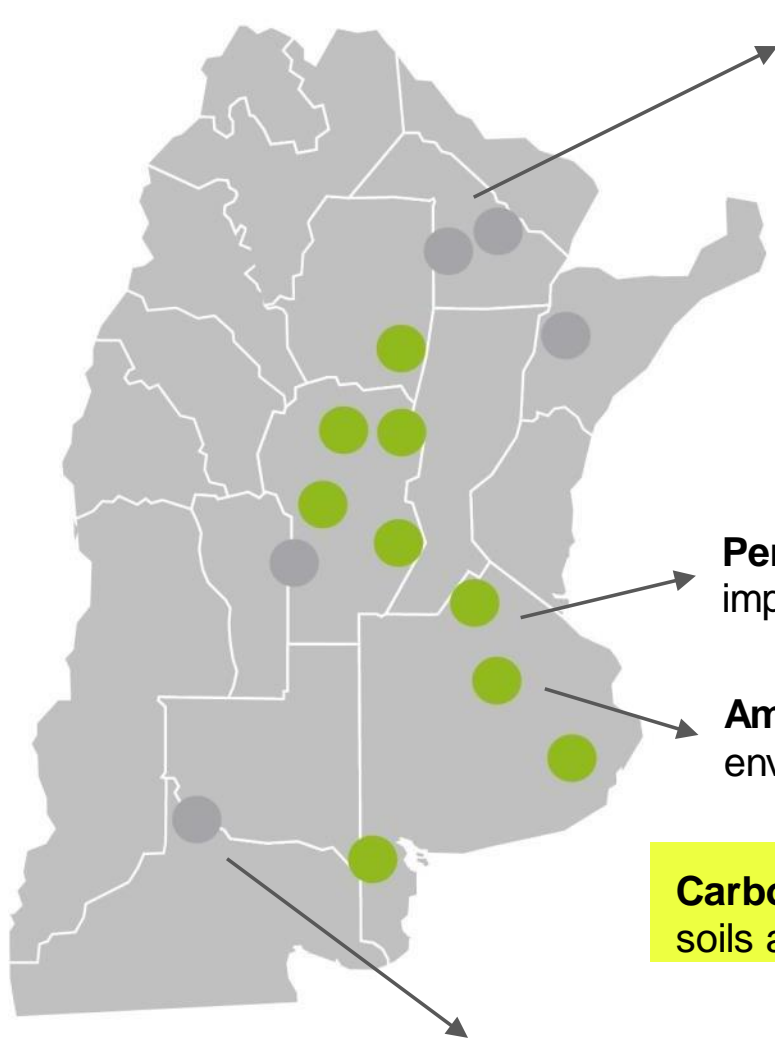
Each **Regional Group** gathers farmers and specialists who exchange information, experiences and production technologies locally.

### ¿How do we do it?

- Workshops in fields called "A farmer in Action"
- Providing Training
- Technology Testing Networks
- Campaign Analysis per crop
- Digital Platform about production data.



# A small sample of some projects...



**Gran Chaco “Chacra” (farm):** How to achieve a smaller C footprint taking care of vulnerable landscapes?

**Services Crops Network:** How to improve its handling?

**Systems Study Network:** How to measure the sustainability and which practices allow its improvement?

**Pergamino Chacra:** How to shorten productive gaps with a lower environmental impact?

**América Chacra:** How to optimize the production handling in flood saline environments?

**Carbon Gap Network:** Which is the highest possible level of C sequestration in agricultural soils and how to reach it?

**VINPA Chacra:** Is it possible to transform the North Patagonic desert in an production development area?

# A small sample of some projects...

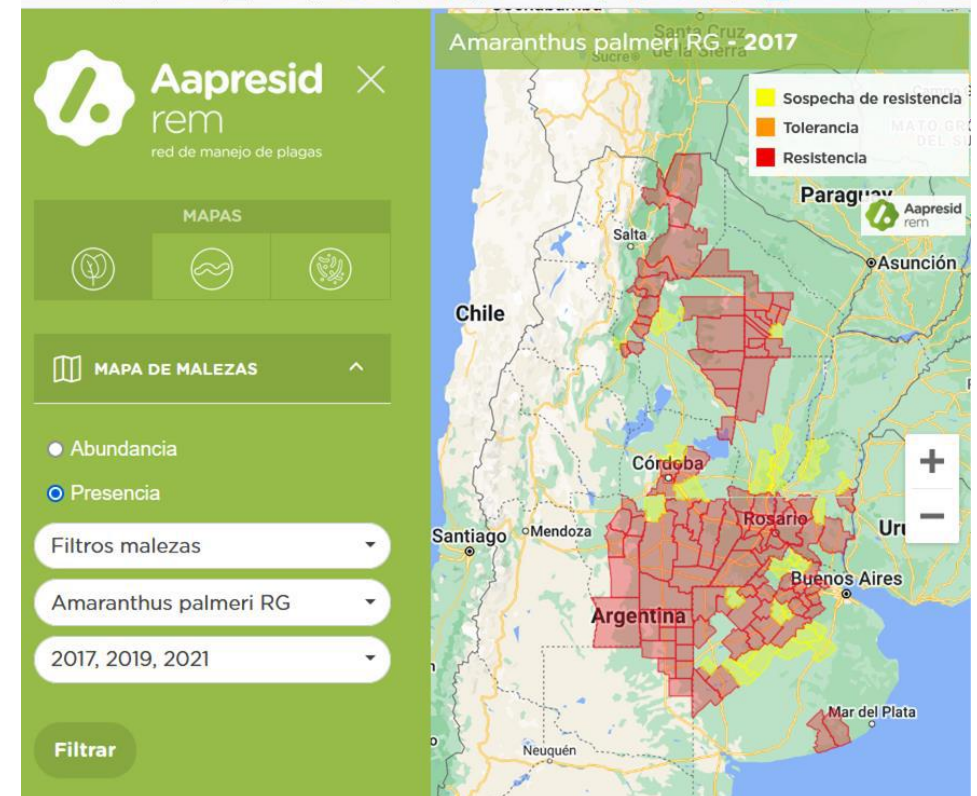
## Pest Management Network

### ¿What is it?

It is a Network of farmers, advisers, institutions, and companies to generate and exchange information regarding pest, weeds, insects and **diseases** management.

### ¿How do we do it?

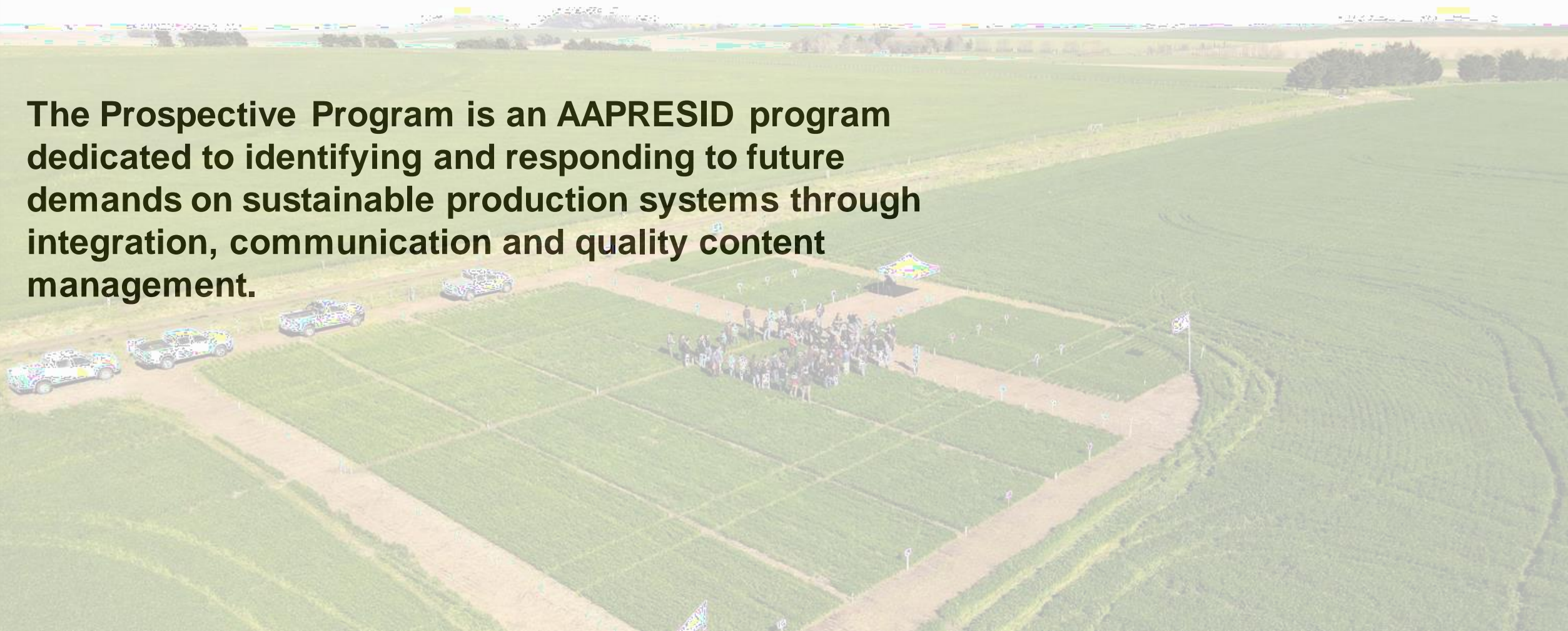
- New **resistance alerts system**
- Local pest maps
- Creation and dissemination of integrated management



# Prospective Program



**The Prospective Program is an AAPRESID program dedicated to identifying and responding to future demands on sustainable production systems through integration, communication and quality content management.**



# Aapresid International Program



## What is it?

Program to develop an institutional framework, strategic alliances and actions to position the no-till system and our country as a reference in the sustainable production of food, fiber and energy at the international level.

## How do we do it?

- Strategic alliances and actions with multiple institutions, farmers associations, diplomatic representations and international organizations.
- Support in the development of No Till Systems in other countries.
- Agronomic technical tours for foreign visitors in Argentina: farmers, official delegations and/or representatives of international organizations.



# UTK - AAPRESID partnership



- Exchanges and technical visits of professors, researchers, students, technicians, specialists and farmers
- Joint research activities and exchange of research and educational materials, publications and academic information
- Organization and participation in seminars, conferences and academic meetings
- Technical assistance

# UTK - AAPRESID (Next Step)



1. The president of Aapresid, Marcelo Torres, will be visiting St. Louis, USA, from October 17 to 19, 2023. This could be an excellent opportunity to include a visit to the University on the agenda.
2. Aapresid publishes a magazine every month, and we would like to invite UTK to submit technical articles to be included in this magazine.
3. It would also be interesting to organize virtual instances of discussion/exchange on topics that UTK and Aapresid R&D program are working on, such as soil microbiology, quality, carbon, renewable energy in agriculture, water conservation, biomass, etc.
4. Two/three-day workshop in Knoxville with specific topics to be discussed to look for opportunities and concrete collaborative projects (soil microbiology, quality, carbon, renewable energy in agriculture, water conservation, biomass, etc.).
5. Participation of an Aapresid delegation in the international symposium themed on "Food-Energy-Water Bioeconomies for Net Zero Transition" on March 18-20, 2024 in Knoxville,





**BYONTEK**

**Thank you very much.**

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