Uruguayan Rice

Gonzalo Zorrilla

USA Rice Outlook Conference

December 6 - 8, 2023 – Indian Wells, CA - USA

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Longstanding USA-Uruguay cooperation

- **1967 - Ch. Bollich releases Bluebelle, introduced to Uruguay in 1969**

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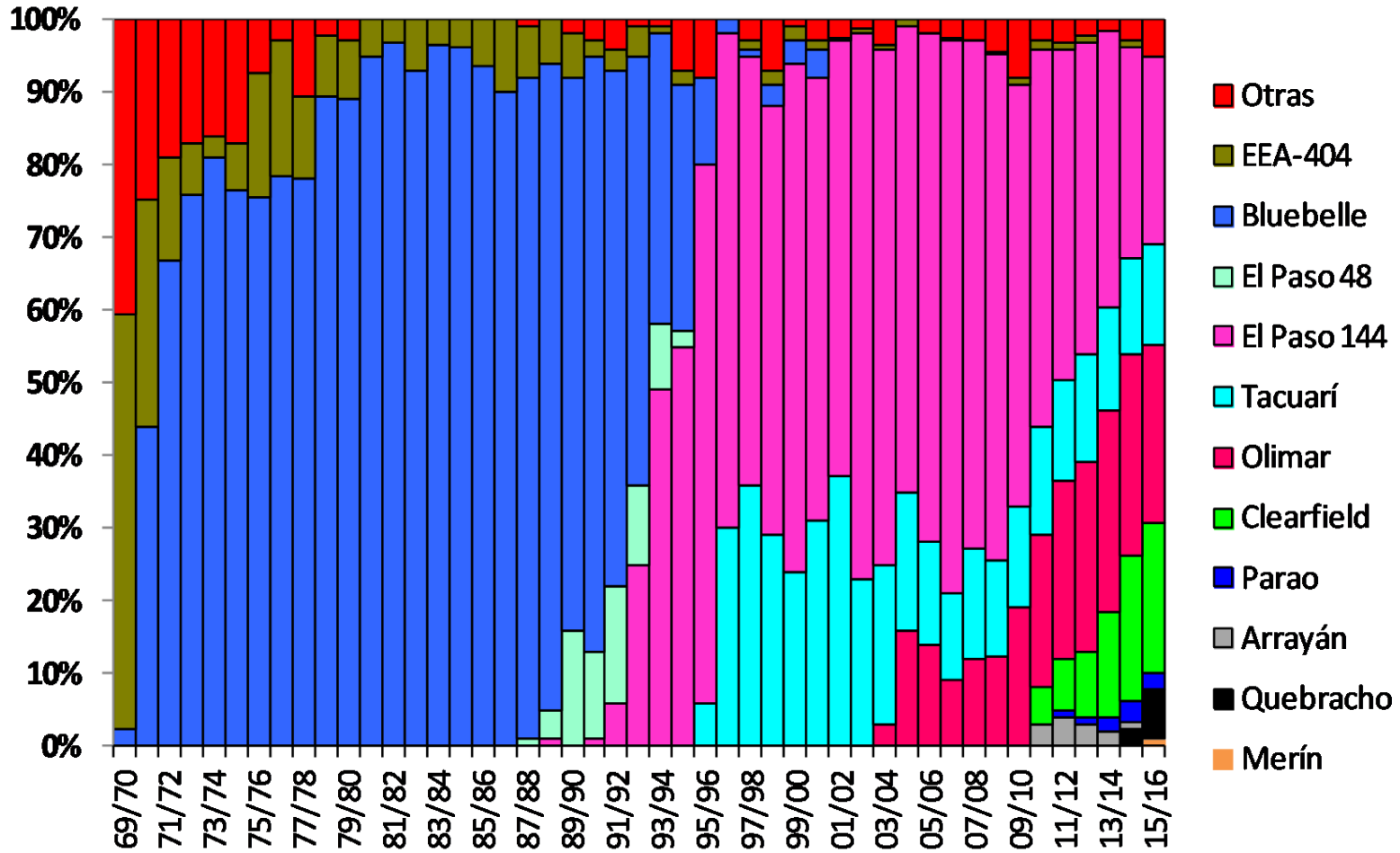

“Charlie” Bollich visiting a Bulebelle field with INIA breeders - 1986

Longstanding USA-Uruguay cooperation

- 1967 - Ch. Bollich releases Bluebelle, introduced to Uruguay in 1969
- **1980 to present – Graduate students**
  - Breeding — P. Blanco / K. Moldenhawer UA; F. Perez / D. Mackill UC-D; F. Molina / S. Linscombe LSU
  - Weed science — N. Saldain / D. Geally UA; C. Marchesi / A. Fischer UC-D
  - Crop and water management — A. Roel / G. McCauley TA&M - R. Plant UC-D; E. Deambrosi – LSU; S. Avila – MSU; G. Zorrilla – A. Knapp - ISU
  - Sustainable rice systems — I. Macedo / C. Pittelkow UC-D

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- **2000 – S. Linscombe – INIA rice breeding external review**
- **2003 – 3rd Temperate Rice Conference in Uruguay – J. Hill, S. Linscombe**

S. Bochi, G. Zorrilla, J. Hill, W. Clampett

Longstanding USA-Uruguay rice relationship

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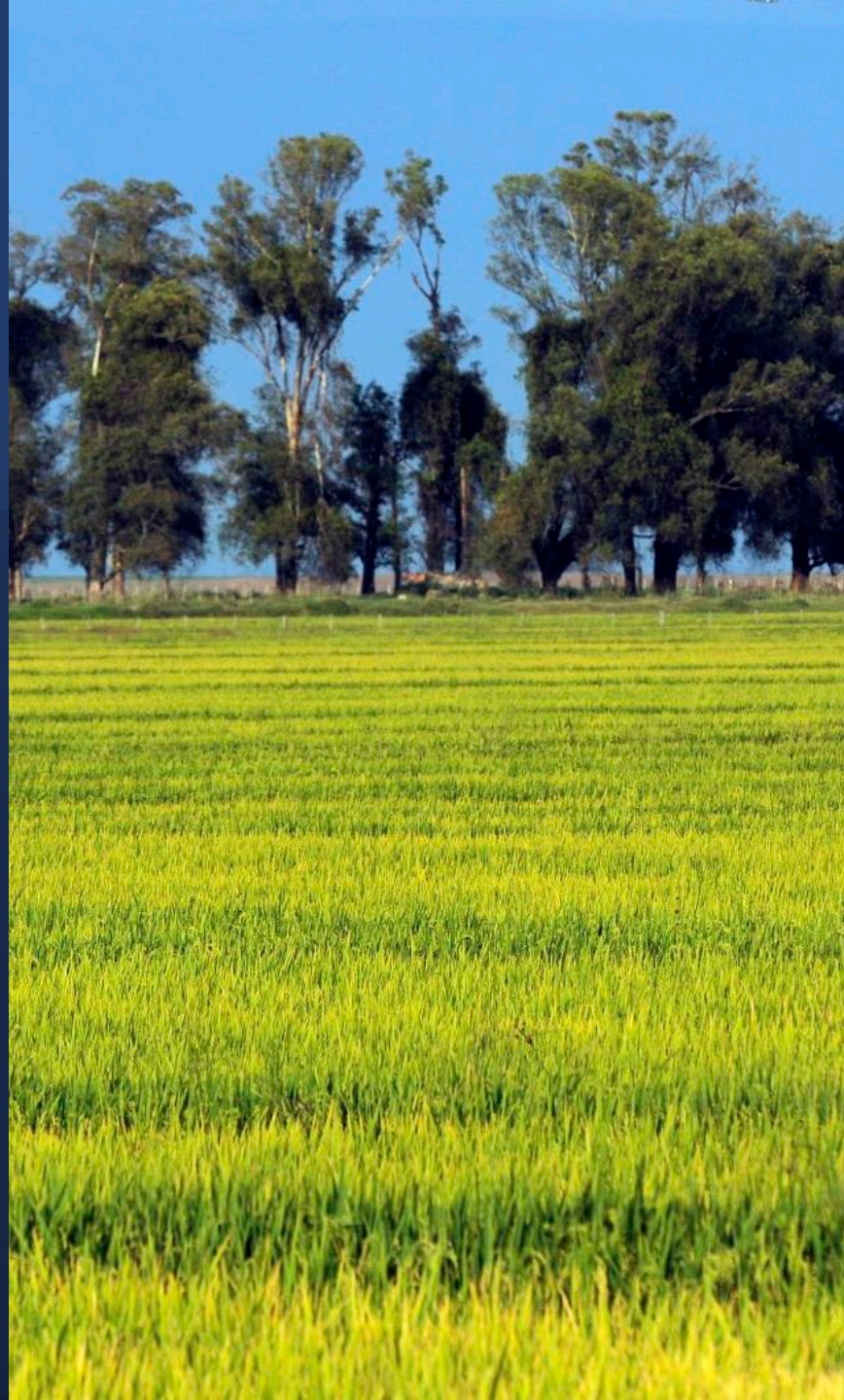
- 2003 – Temperate Rice Conference in Uruguay – J. Hill, S. Linscombe
- **2018 – Leadership program from Rice Foundation in Uruguay**

Thanks!

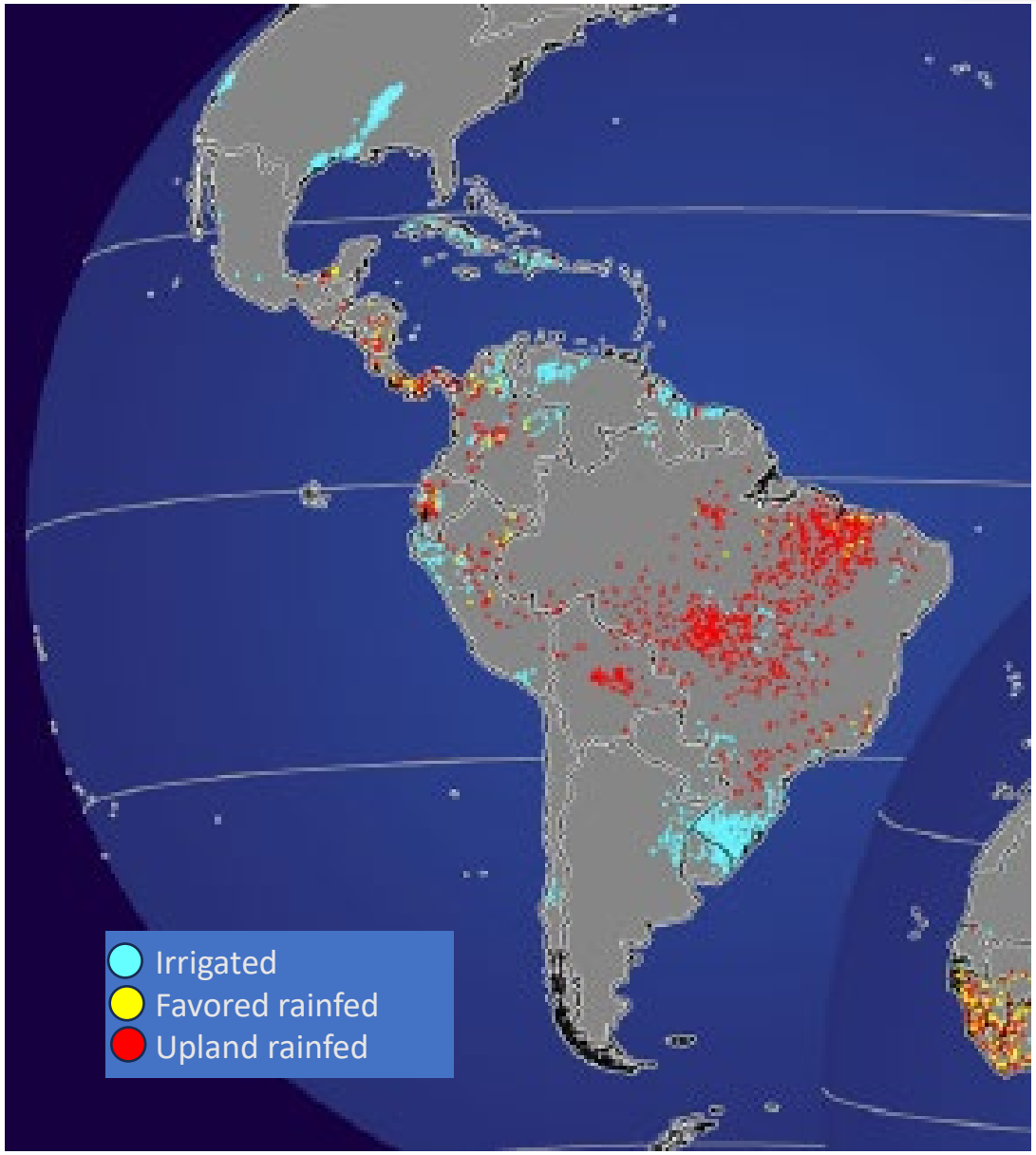


Topics

- Uruguayan rice sector at a glance
- Main strategies as “obligatory” rice exporters
- Markets
- Challenges ahead

Uruguayan rice sector

Rice in Mercosur



Adapted from IRRI Rice World Map

Uruguay, Argentina, Paraguay and South Brazil: **1.5 million ha – 13 million tons paddy**

Temperate to sub-tropical

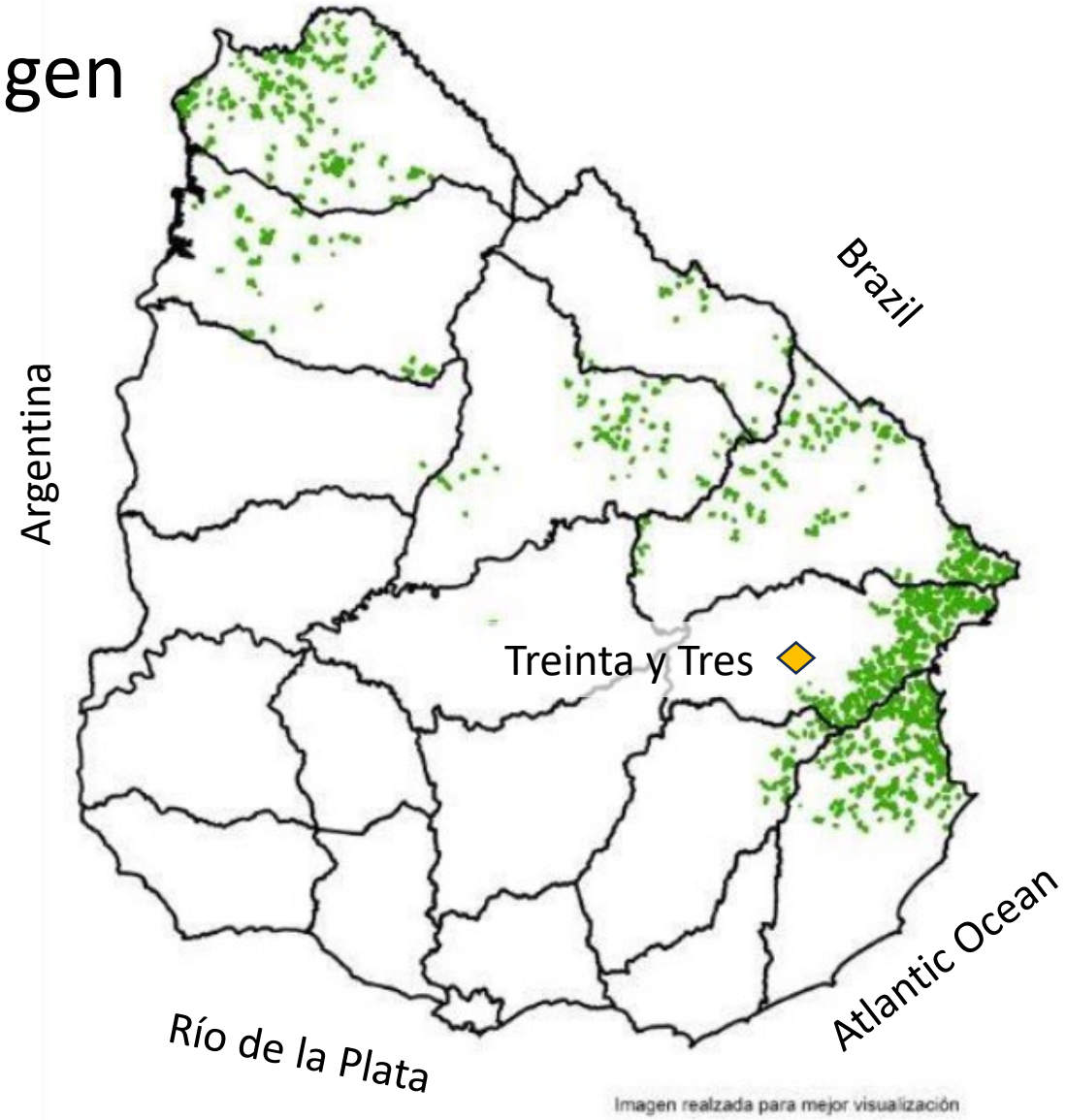
Extensive, commercial and mechanized farmers

100 % irrigated, one crop per year

90 % drilled direct seeded rice, mostly with minimum or no-till

Rice for export: Uruguay (95 %), Argentina (50 %), Paraguay (70 %), Brazil (10 %)

Rice fields 2019
Satellite imagen




The Farmer

Uruguayan rice sector highlights

- **Extensive, mechanized rice farming – 450 farmers, average farm 400 ha**
- **75% of rice farmers rent the land**
- **100% dry soil preparation and drilling using no till planters**

Soil preparation and planting






surface leveling, contour levees, drainage, drilling, early herbicides and initial fertilization (including first urea), in dry soils

Timely and proper crop emergence, clean of weeds, with exact N and flooding management ensures more than 10 t/ha

Uruguayan rice sector highlights

- Extensive, mechanized rice farming – average farm 400 ha
- 75% of rice farmers rent the land
- 100% dry soil preparation and drilling using no till planters
- **100% irrigated – all private irrigation systems**

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- **Rotation with pastures and cattle and/or other crops**


Arroyito GEO 7 de marzo (cerca)

Agronomy Journal

ARTICLE | Open Access

Irrigated rice rotations affect yield and soil organic carbor sequestration in temperate South America

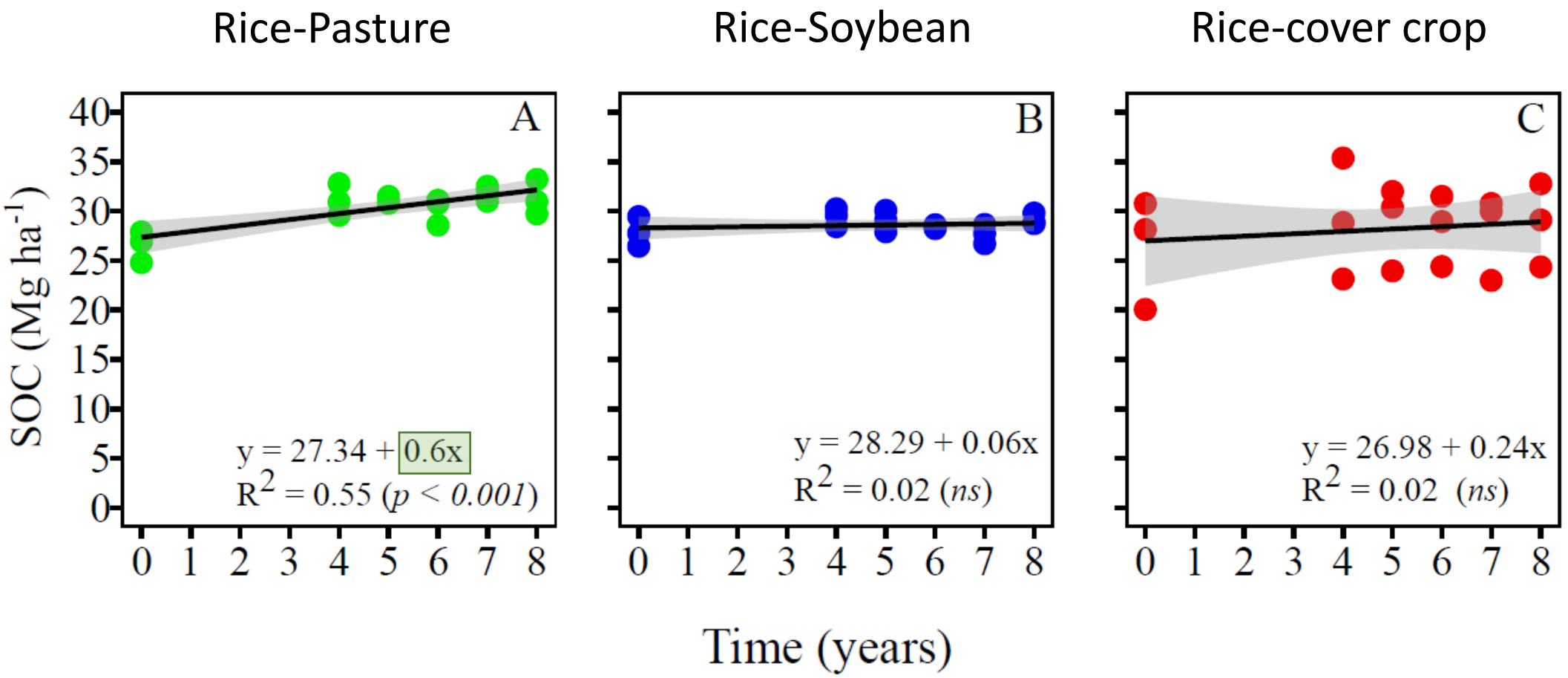
Ignacio Macedo, Alvaro Roel, Walter Ayala, M. Virginia Pravia, Jose A. Terra, Cameron M. Pitt

First published: 25 November 2021 | https://doi.org/10.1002/agj2.20964

Assigned to Associate Editor Josh McGinty.

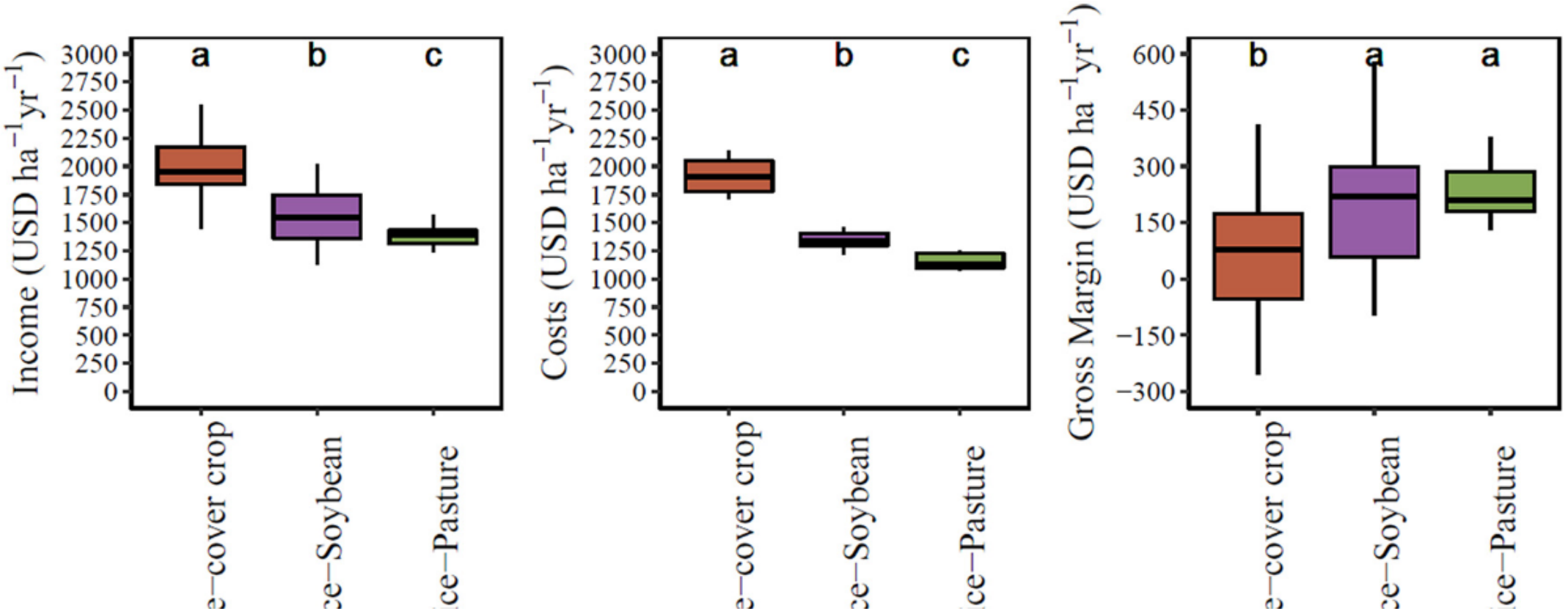
Soil Organic Carbon (0-15 cm depth)

Results



Economics

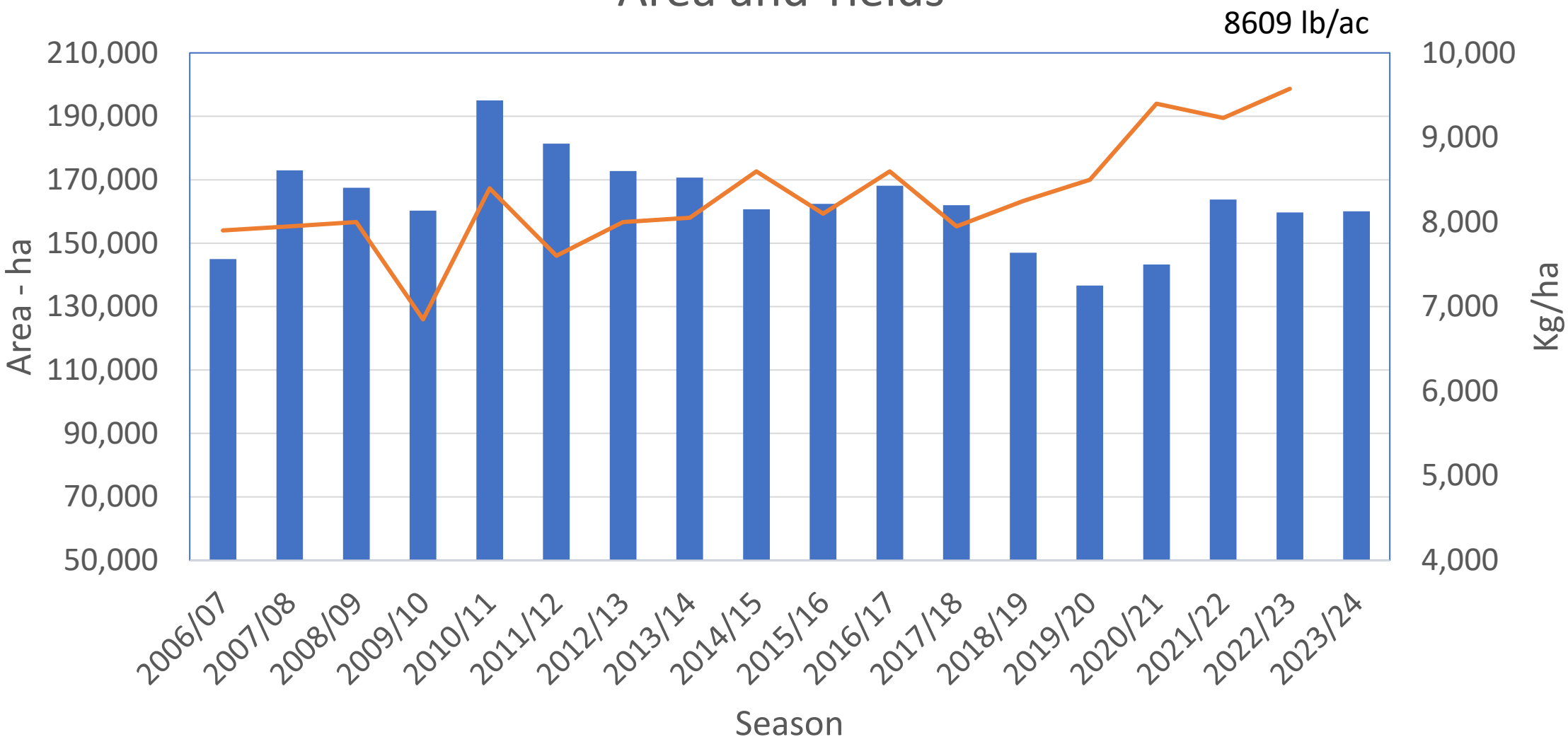
- **Results**



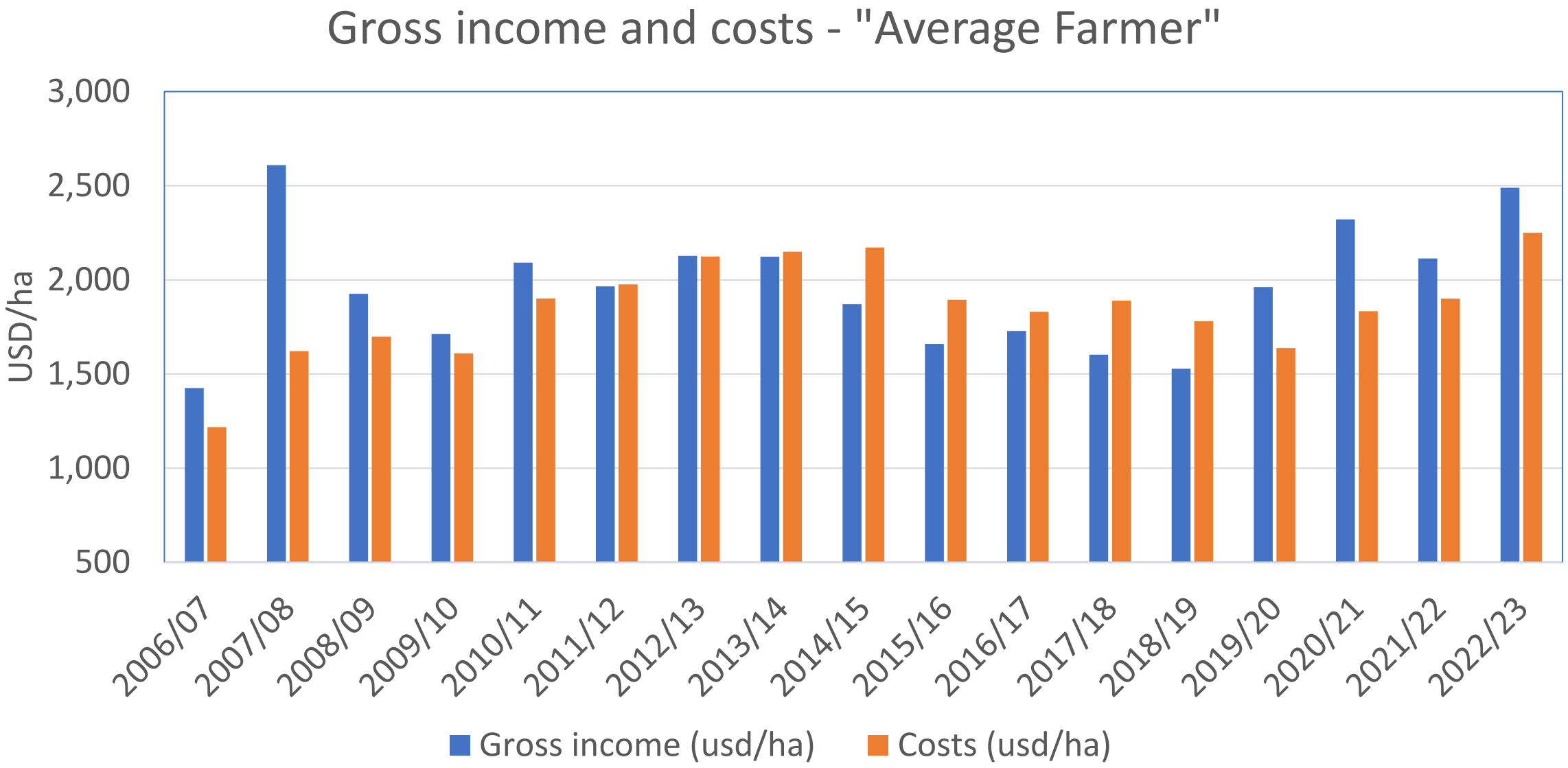
Uruguayan rice sector highlights

- Extensive, mechanized rice farming – average farm 400 ha
- 75% of rice farmers rent the land
- 100% dry soil preparation and drilling using no till planters
- 100% irrigated – all private irrigation systems
- Rotation with pastures and cattle and/or other crops
- **High yields, input and crop management efficiency are critical - high costs, small and unstable profits**

Area and Yields



Source: ACA – Rice Farmers Association



Source: ACA – Rice Farmers Association

10 Uruguayan Rice Extension Program **“10 points for 10 tons”**

Gonzalo Zorrilla, Technical Leader

10 Managements points for 10 tons/ha

1. Minimum tillage, land leveling, and levees constructed before planting time

2. Planting at optimum dates and precision seeding (October)

3. Use high yield blast resistant cultivars, and certified treated seeds

4. Initial fertilization (NPK) adjusted by soil test and INIA recommendations

5. Weed control: Pre-emergence and early post-emergence application

6. Urea in dry soil at tillering defined by soil test and INIA recommendations

7. Early flooding (V3-V4) immediately after herbicide and urea

8. Complementary urea at panicle differentiation by INIA recommendations

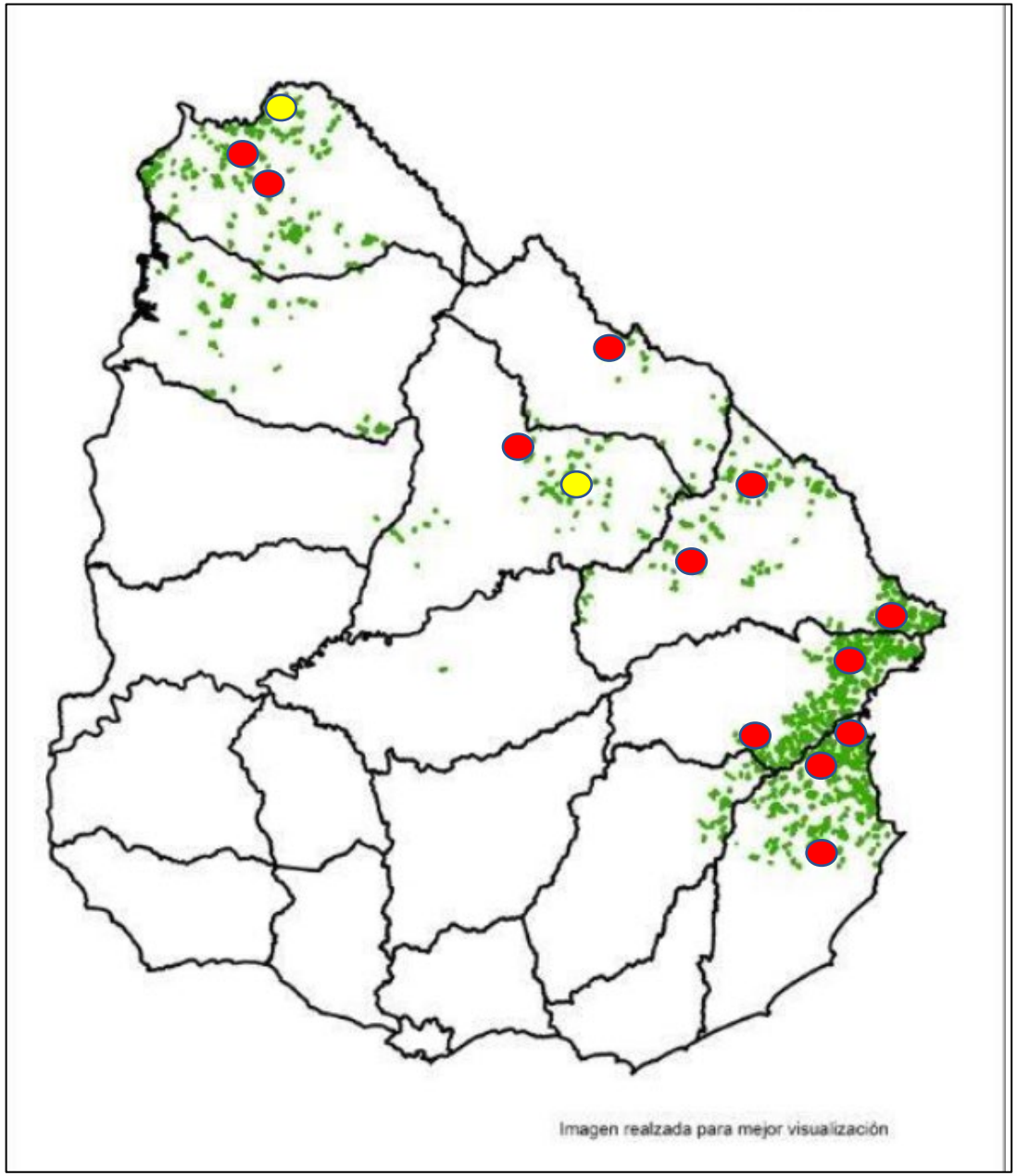
9. Disease and pest managements based on scouting and cultivar

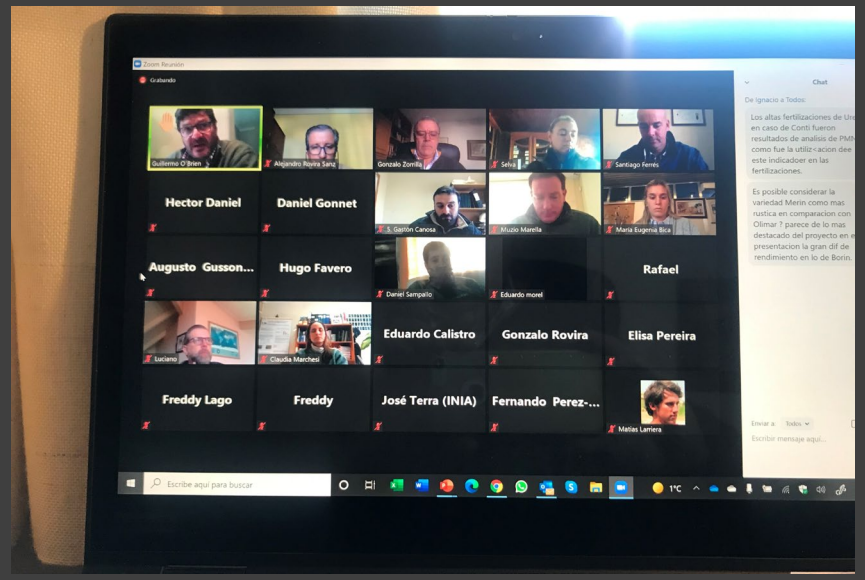
10. Field drainage and harvest at the right time considering cultivar

10 Uruguayan Rice Extension Program **“10 points for 10 tons”**

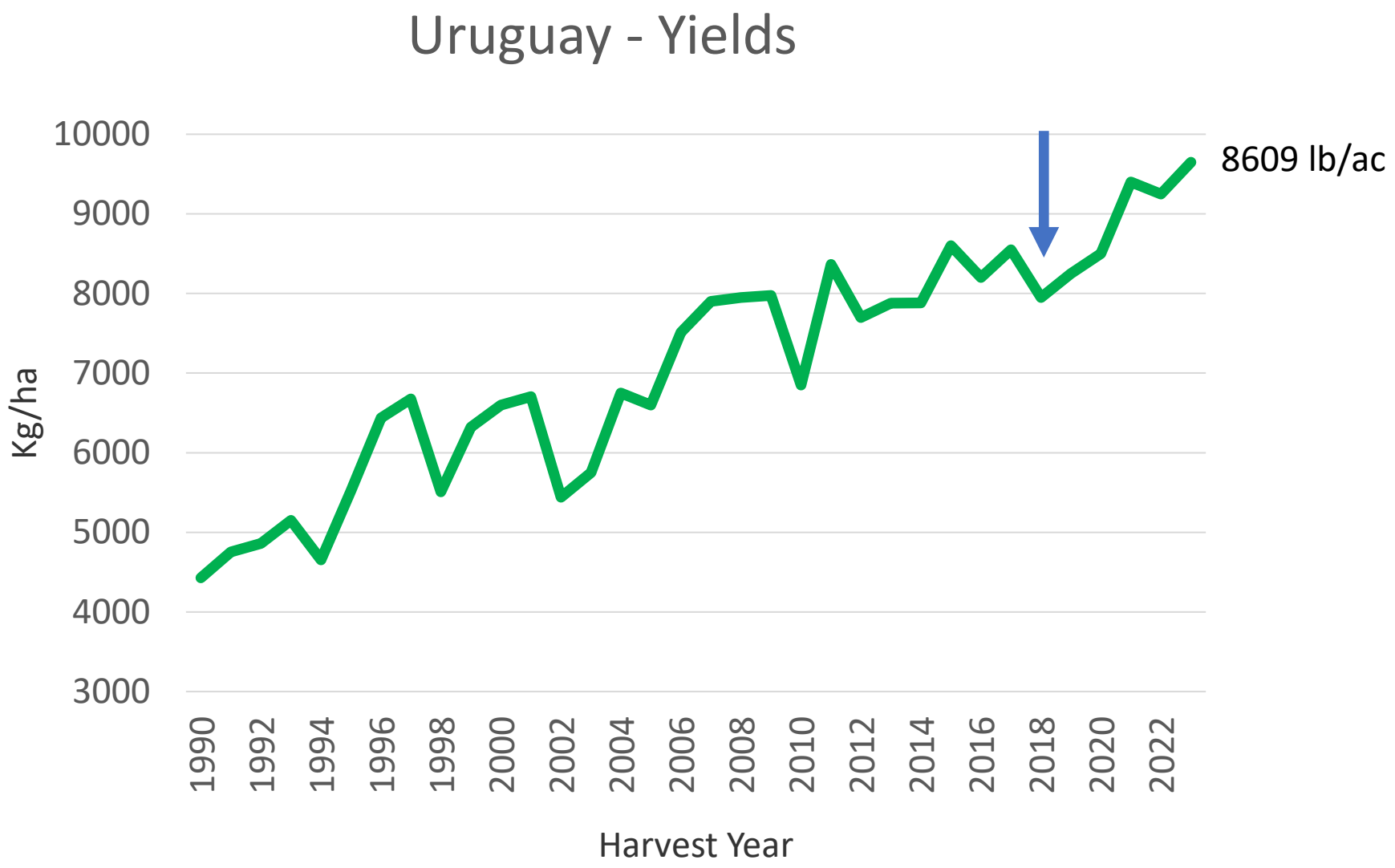
Farmer Leaders
2019 - 2023

- Demonstration sites




Grabando
Chat
Hector Daniel
Daniel Gonnet
Augusto Gusson...
Hugo Favero
Rafael
Eduardo Calistro
Gonzalo Rovira
Elisa Pereira
Freddy Lago
Freddy
José Terra (INIA)
Fernando Perez-...
Escribe aquí para buscar

10 Uruguayan Rice Extension Program **“10 points for 10 tons”**



ACA Asociación Cultivadores de Arroz

INIA URUGUAY

ARROZ Uruguayo

GREMIAL DE MOLINOS ARROCEROS

FLAR

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- Rotation with pastures and cattle and/or other crops
- High yields, input and crop management efficiency are critical - high costs, small and unstable profits
- **Advanced and concentrated millers and exporters**

Rice millers - 2021

COMPANY	SHARE %
SAMAN	41,7
ADECOAGRO	11,1
CASARONE AGROINDUSTRIAL S.A.	10,9
COOPAR S.A.	13,8
DAMBORIARENA Y ESCOSTEGUI SRL	6,8
ARROZAL 33 S.A.	5,5
OTHER 15 SMALLER COMPANIES	10,2
	100,0

Rice for Export

Conceptual framework

- Our consumers are all abroad
- International market for rice is highly regulated and volatile
- The best rice with the lowest possible price is our best bet
- Quality, quality, quality! – variety identity preserved
- Technologically advanced and reliable export industry

Institutional Arrangement

- Rice Farmers Association (ACA) – 1947
- Rice Millers Union (GMA) – 1949
- Rice Research Program (INIA) – 1970
- Grain Quality Research Lab (LATU) - 2000
- Government – loans, infrastructure, energy, free market treaties
- **no subsidies of any kind**

Farmer/Miller Contract

- private agreement since 1960
- contract between each farmer and a specific mill signed every year
- Farmer must bring all his rice to this mill
- Mill must receive all rice from the farmer
- Mill offers technical advice and may finance part of the costs of production
- Farmer and miller arrange which varieties to plant – there are premium prices for specific niche varieties
- Farmer must use certified seed – grain quality and red rice control

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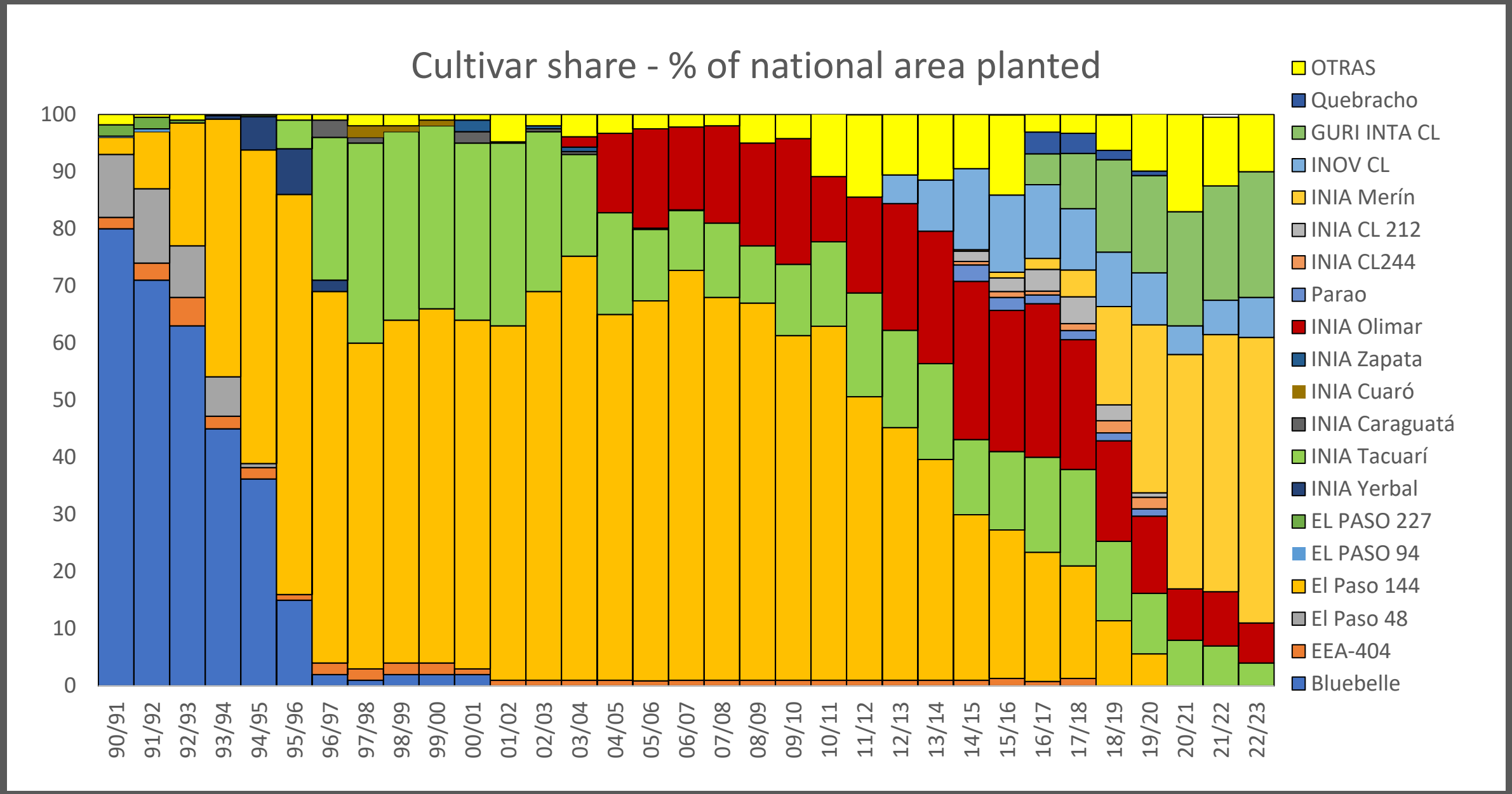
Cultivar share - % of national area planted
100
90
80
70
60
50
40
30
20
10
0
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
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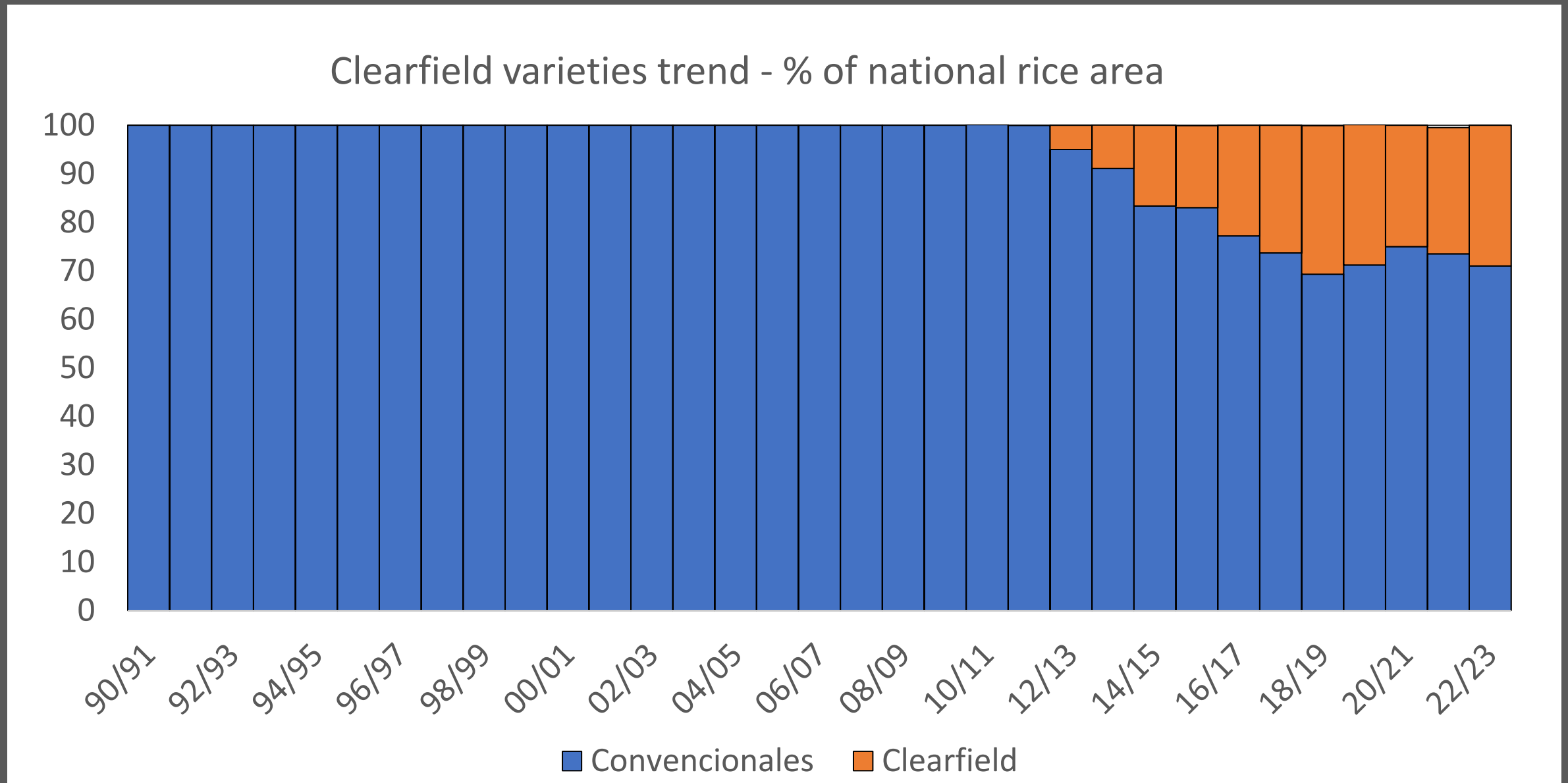
18/19
19/20
20/21
21/22
22/23
OTRAS
Quebracho
GURI INTA CL
INOV CL
INIA Merín
INIA CL 212
INIA CL244
Parao
INIA Olimar
INIA Zapata
INIA Cuaró
INIA Caraguatá
INIA Tacuarí
INIA Yerbal
EL PASO 227
EL PASO 94
El Paso 144
El Paso 48
EEA-404
Bluebelle


Clearfield varieties trend - % of national rice area
100
90
80
70
60
50
40
30
20
10
0
90/91
92/93
94/95
96/97
98/99
00/01
02/03
04/05
06/07
08/09
10/11
12/13
14/15
16/17
18/19
20/21
22/23
Convencionales
Clearfield

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- Farmer must use certified seed – grain quality and red rice control
- **Contract includes a premium/discount table on rice quality**
- **A double check by ACA reference labs is allowed on all rice samples from farmers**
- **Both sides accept the “Rice Price Agreement”**

Quality standards

	Standard	Max Tolerance	Premium/Discounts
Dirt	0%	15%	-1%
Grain moisture	13%	25%	Adjust to 13%
Total white	70%		+- 0,5%
Head rice	58%		+- 0,5%
Green grains	3%	8%	-0,50%
Red grains	1%	5%	-0,25%
Spotted grains	0,25%	12%	-1,5% hasta 0,50%
			-2,0% hasta 0,75%
			-3,0% hasta 12%
Chalked grain	6%	18%	-0,50%

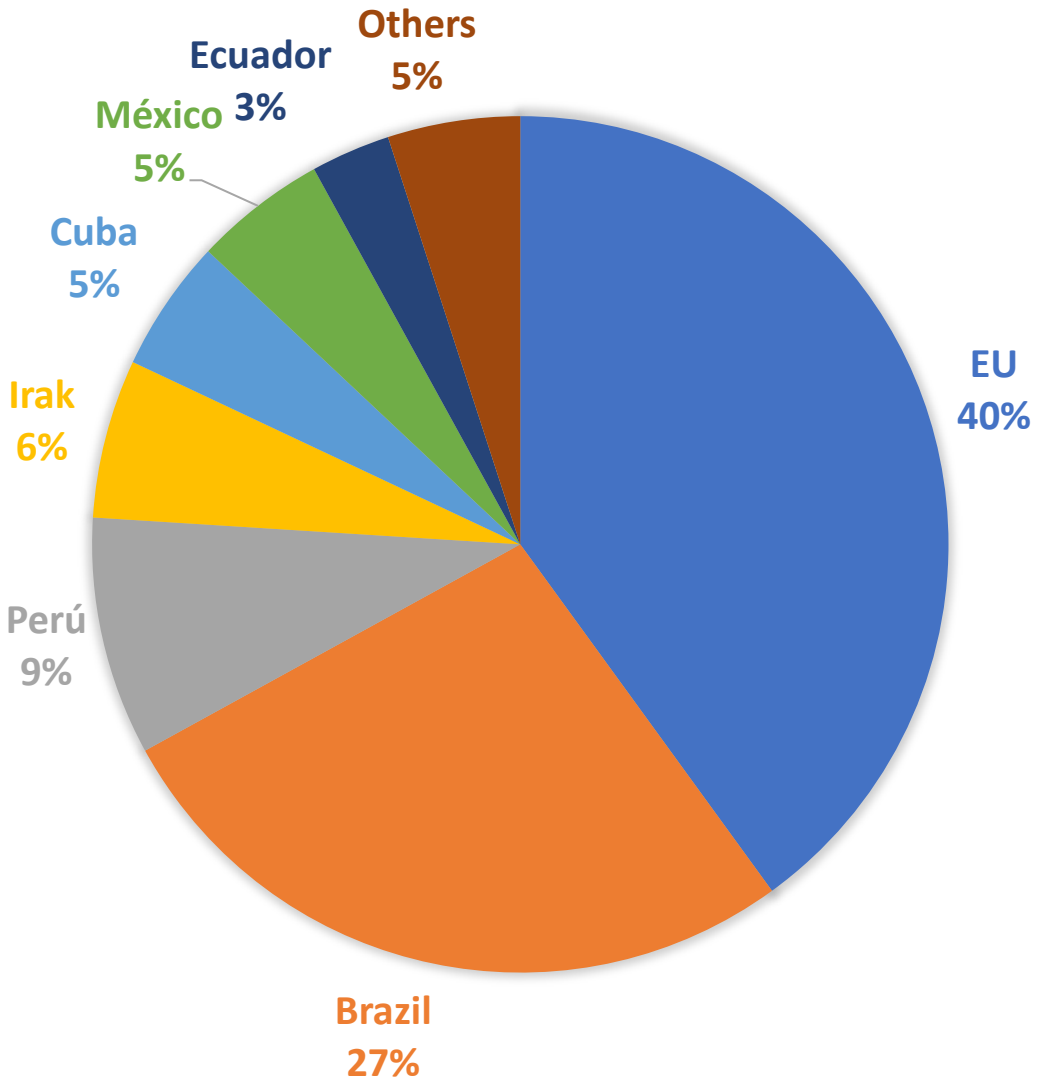
Rice Price Agreement

A. Total rice value of a specific year: exports + internal consumption + byproducts (U$S)
B. Millers' industrial costs + a fixed net income (3%)

Farmer price is the residue (A – B) – harvest in March-April and a “provisory price” is paid on June 30th.

ACA and GMA set a permanent committee that is monitoring the market and finding the price agreement along the year

Markets



Highlights from 2022-23

- 2023 harvest almost totally sold (95%)
- 30.06.2023 provisory price – USD 270/ton paddy rice. The final price will be higher

Season 2023-24

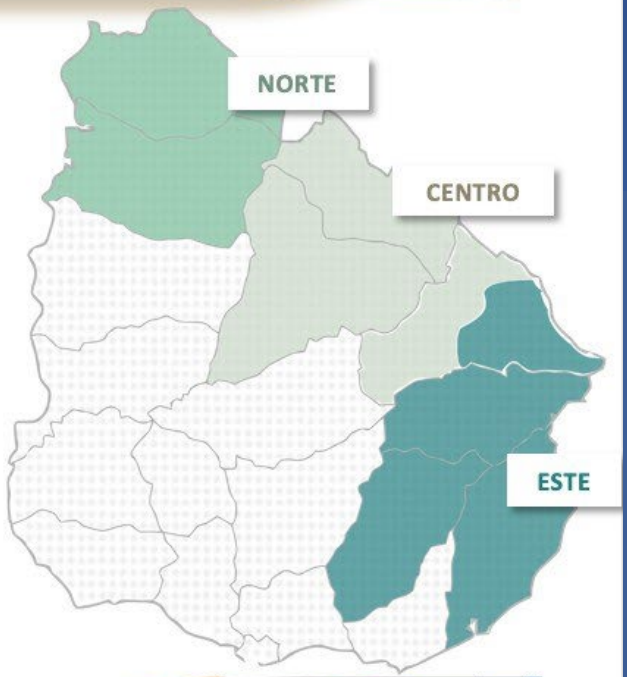
- Planting ended last week
- Intended area was 160.000 ha, but only 150.000 ha effectively planted – lack of water on the biggest irrigation dams
- Most area installed at recommended planting date

Zafra 2023 – 2024
Relevamiento de siembra al 30.10.23

Intención de siembra nacional

✓ Zafra 2023-24: **160.085 ha**

Avance de siembra
Promedio Nacional: 82 %

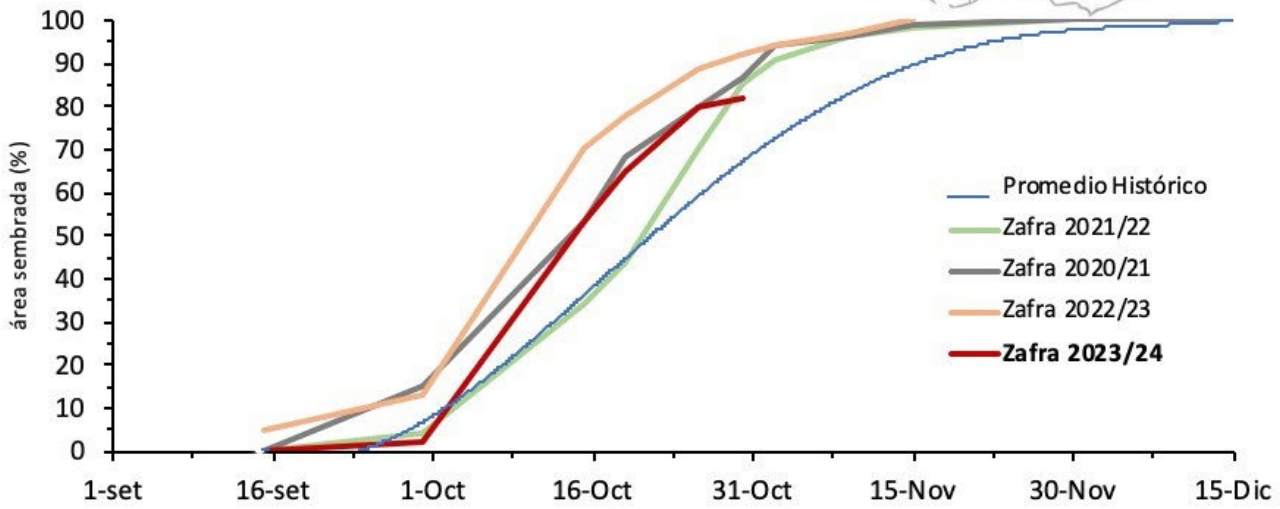


Avance de siembra por zona arrocera:

ZONA NORTE 72 %

ZONA CENTRO 84 %

ZONA ESTE 84 %



**Promedio histórico en base a: Molina et al (Taller de Evaluación de Zafra de Arroz, INIA)*

Season 2023-24

- Planting ended last week
- Intended area was 160.000 ha, but only 153.000 ha effectively planted – lack of water on the biggest irrigation dams
- Most area installed at recommended planting date
- Expected harvest 2024: 1,4 million tons paddy rice

Challenges Ahead

- We cannot compete by volume and/or market strength
- High quality and competitive prices are not enough
- Efforts on adding value and depart from commodity
  - Niche cultivars for high value markets
  - Documenting and certifying sustainable rice systems – SRP (Sustainable Rice Platform) and others
  - Exploring carbon markets
- Diversifying production – rotations with cattle, soybean, maize, sorghum
- New free trade agreements (China?)


Thank you!