SESSION 3

Sustainable Agriculture: Primary Production

Primary production in Brazil and São Paulo

Science, impact and FAPESP

FAPESPWeek NETHERLANDS
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Co-chairs



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FAPESP

Brazil: a global food supplier

World's #1 exporter

- Soybeans
- Sugar
- Cotton
- Chicken
- Beef
- Pork: 4th

Chicken
1980 → 2023

12× production

30× exports

Sources: CNA 2026; ABPA; FAO 2024

More food, without more land

Grains, 1977 → 2026

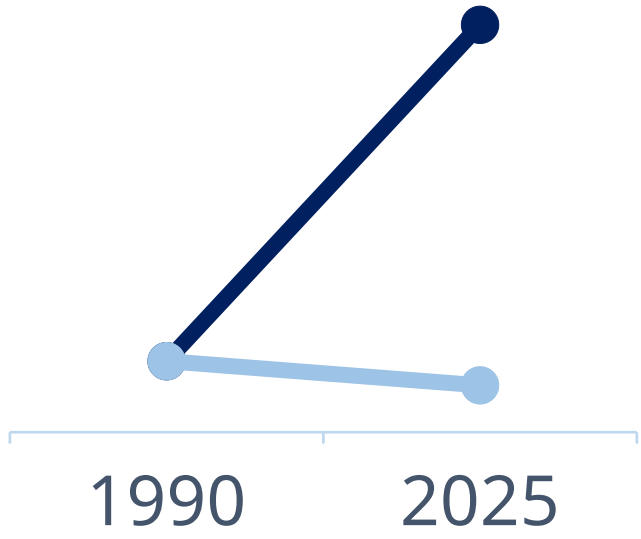
Production 46 → 361 Mt

×7.8

Area 37 → 84 Mha

×2.3

Beef, 1990 → 2025



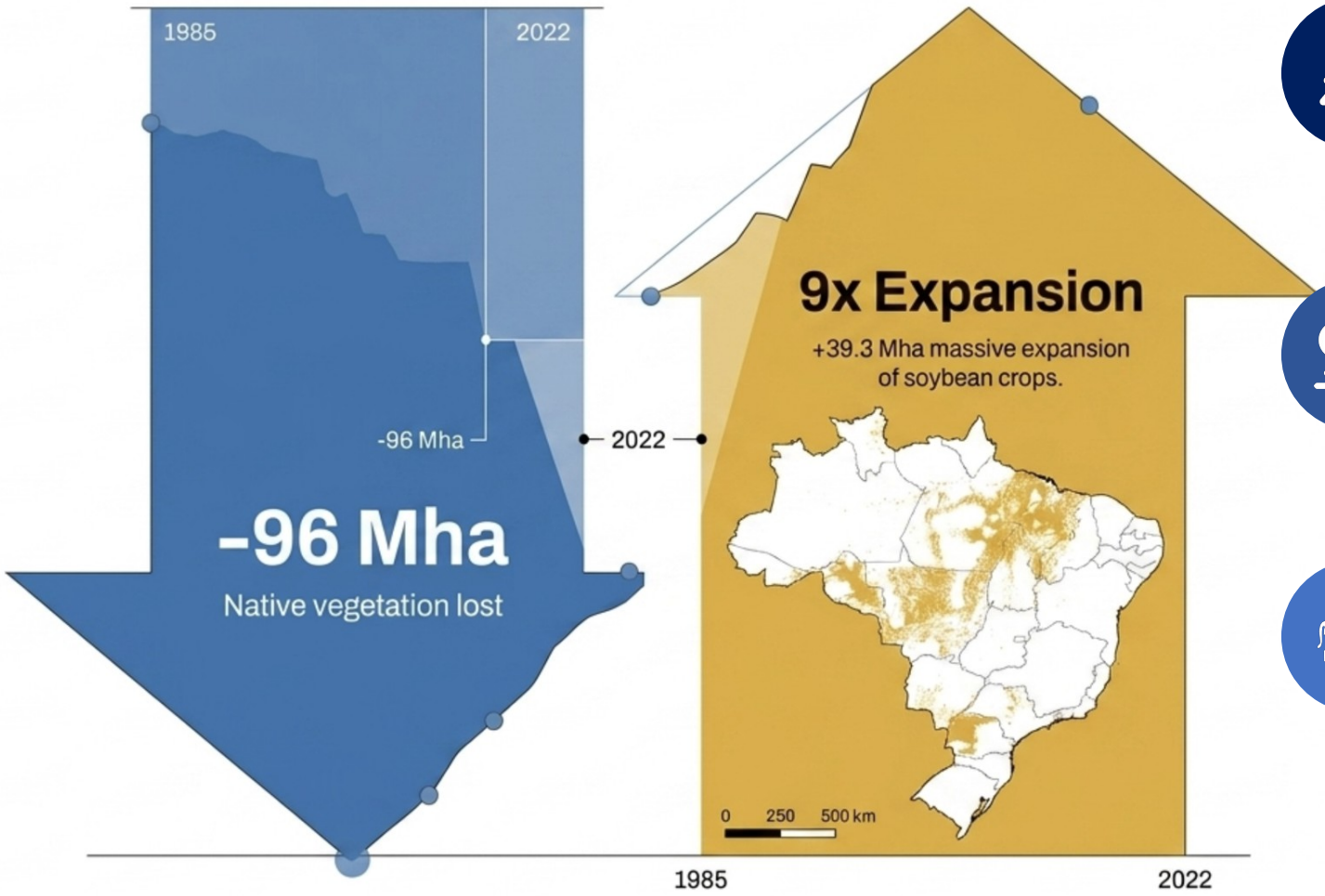
+237%
beef production

−17%
pasture area

At 1977 yields, today's harvest would need **~290 Mha** (3.5×)

Sources: Conab 1976/77–2025/26; Athenagro, IBGE; 290 Mha calculated at 1976/77 yield

The other side of growth



−96 Mha
native vegetation lost, 1985–2022

74%
of emissions: farming + land use

28%
of emissions: farming alone

Sources: MapBiomas, Collection 8 (2023); SEEG / Observatório do Clima, emissions 2023 (published Nov 2024)

São Paulo, the locomotive

55%
of sugarcane

77%
of oranges

83%
of peanuts

#1
in eggs (24%)

#2
feedlot herd

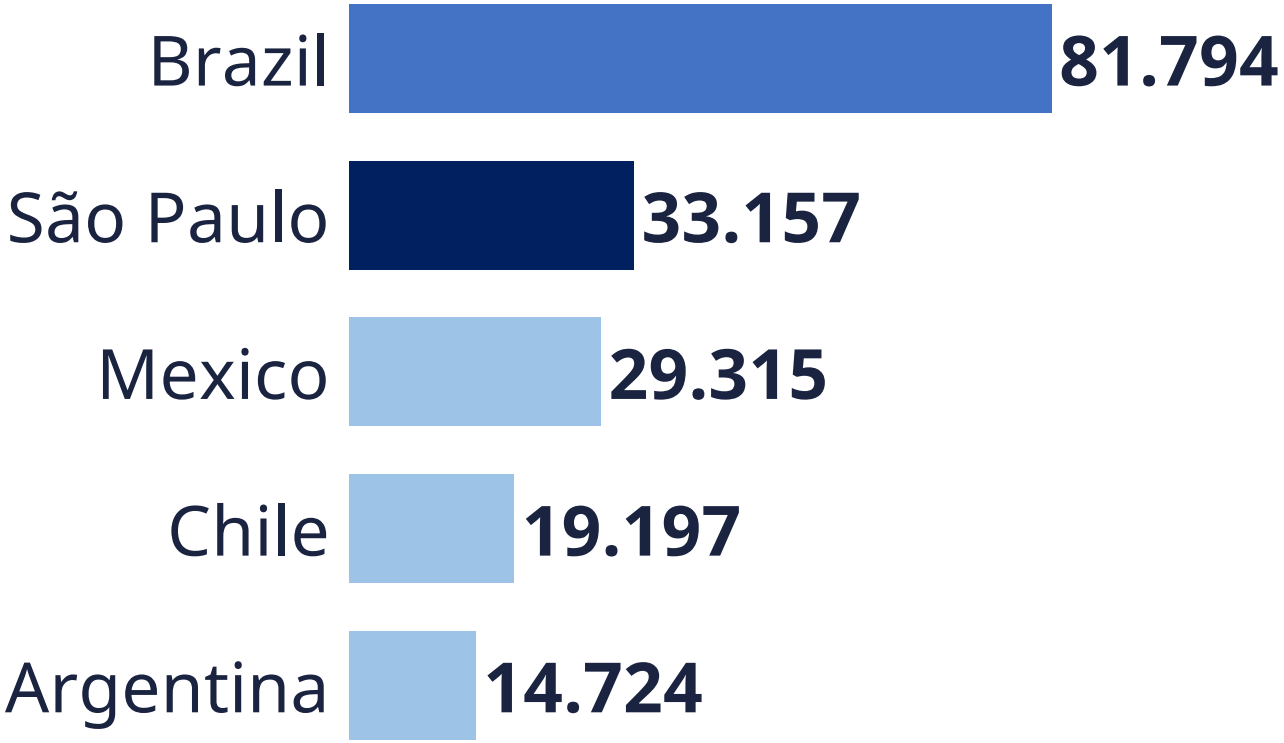


11%
of farm value

Shares of Brazil's national production. Sources: IBGE PAM/PPM 2024; DSM-firmenich 2025; MAPA VBP 2025; FAO 2024

São Paulo's scientific output

Papers published in 2025



Agricultural sciences

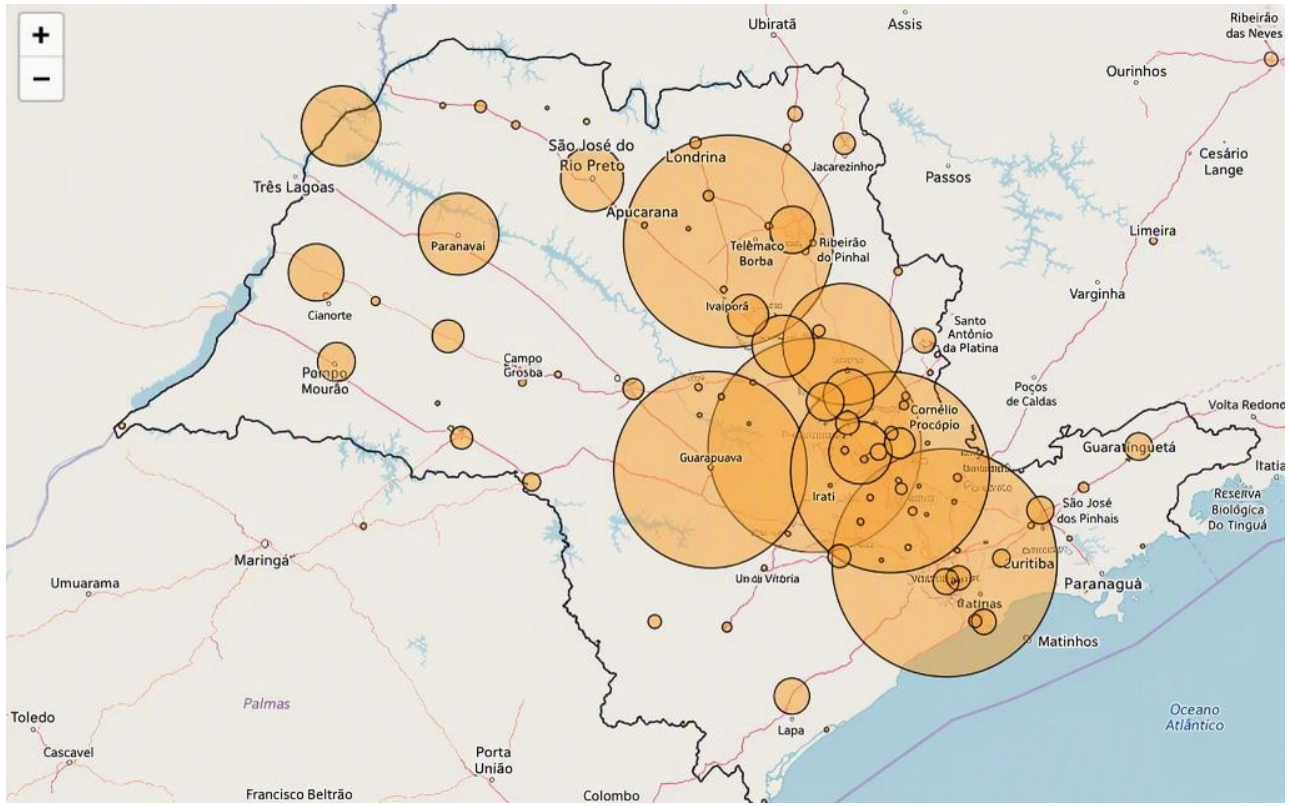
36%
of Brazil's papers come from São Paulo

5.6%
Brazil's world share (2.5% in all fields)

Web of Science, 2010–2025

FAPESP funding across São Paulo

Agricultural sciences, 1992–2026



39,599
scholarships and grants since 1992

2,250
projects under way today

135 · 728
municipalities · research units

FAPESP, agricultural sciences, 1992–2026 (data extracted 2 Oct 2026)

FAPESP milestones

1%
of state tax revenue

R$ 1.77 bi
invested in 2024

200,000+
scholarships since 1962

BIOTA
1999

Xylella
2000

BIOEN
2008

Citrus
2024

SAS
food systems

Priority
2026–28

Sustainable food production

Sources: São Paulo State Constitution; FAPESP Annual Report 2024

Where SP and NL meet

More food, less land, fewer chemicals, lower emissions

- **Low-carbon livestock**
- **Biological inputs**
- **Biodiversity**
- **One Health**



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Frontiers in this session



From pesticides to biologicals

Italo Delalibera Jr.
ESALQ-USP



Hologenome to greenhouse gas

Luciana Regitano
Embrapa



From molecules to market

Ronaldo Dalio
IdeeLab

Next: **Peter van Bodegom, Leiden University**

Dutch perspectives: Hedwich Teunissen · Simon Oosting