

# Virtual Workshop Series on Regulatory Approaches for Agricultural Applications of Animal Biotechnology

Session VI: Moving towards the Market and Public Acceptance

*Developer/producer perspective on market readiness in South America*

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*November 18<sup>th</sup> 2020*

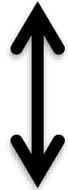


# Background on my personal trajectory

- 30 years scientific background in livestock genetics and genomics (*scientific and academic*)
- Developments in the field of genomic selection and application of DNA based technologies (*innovation*)
- Scientific member of CTNBio (*regulatory*)
- **Gene Editing** involvement through consultancy and partnerships

# My knowledge on the topic

Little depth...



Very broad....

*the topic:*

*Developer/producer perspective on  
market readiness in South America*

# Livestock Biotech in South America

- South America is clearly an important and crucial global player in food production (just starting)
- Traditional biotech in livestock very well adopted, developed and accepted (AI, ET, IVF, Cloning), **if...** economically sustainable
- Transgenesis in livestock never raised a point (always for specific pharmaceutical purposes)
- No major public awareness about biotech by stakeholders, **until....**

# Gene Editing in South America

- Started concept discussion in 2013 (Acceligen)
- Acceligen advances in cattle (Myostatin and Polled)
- CTNBio (Brazil) and Conabia (Argentina) regulatory landmarks around 2018
- CTNBio dossier for Polled cattle 2019 (recall of the process)
- GE tilapia in 2019-2020
- Other cases to come (thermo tolerance, myostatin, polled, disease resistance, tick resistance, etc... in different animal species)

# Developer/producer perspective on market readiness in South America

- **Developer/producer perspective:** breeders and developers are keen to test the technology concept and evaluate its economical/commercial sustainability
- **CTNBio perspective:** regulators have designed and implemented case-by-case evaluation methodologies (Brazil and Argentina up to date, others to come)
- **Scientists perspective:** very little research going on in animal GE (UNESP, EMBRAPA, ???)
- **Consumers perspective:** unknown, should follow other countries as discussed here in this panel
- **Activists perspective:** no information up to now

# Facts regarding perspectives on market readiness in South America

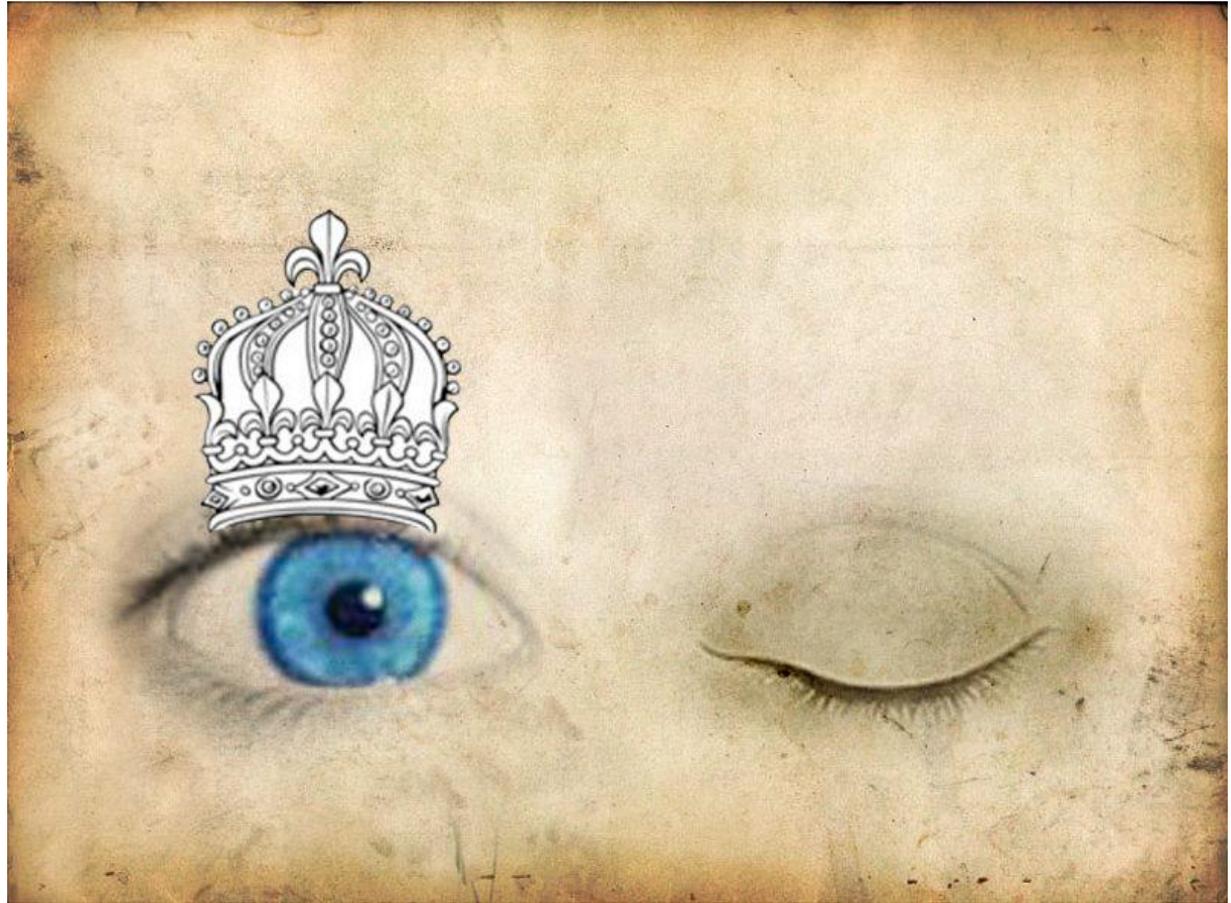
- Agriculture represents around 50% of SA's GDP/economy
- Environmental constraints are pushing for more productivity in less area
- SA countries were first comers on GE regulation, with systems working well up to now
- Traditionally relying on collaboration with multinational companies (default for agricultural sector worldwide – seeds, herbicides, genetics, etc...)

# Future of animal GE technologies in South America



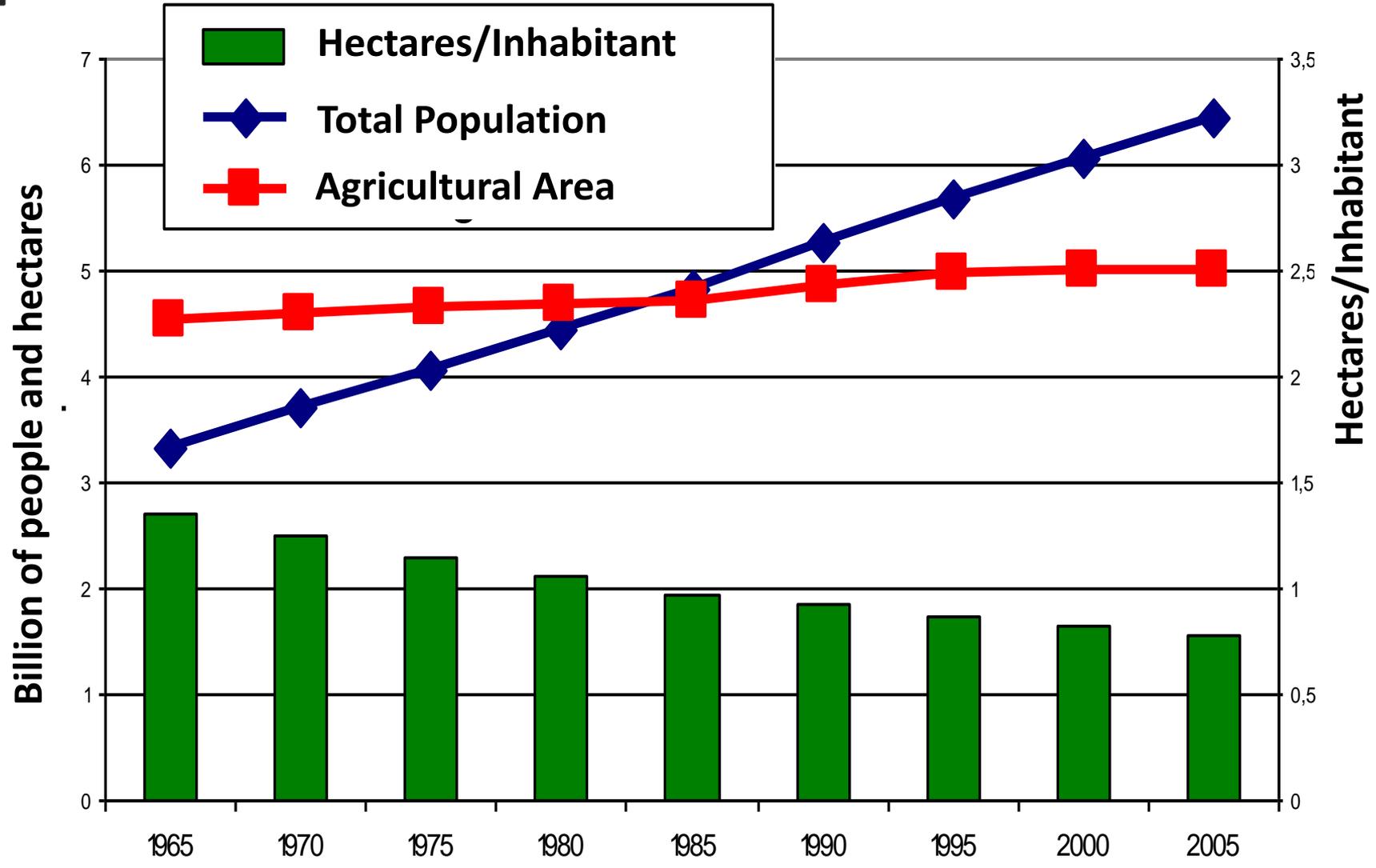
# Future of animal GE technologies in South America

*“In the land of the blind, who has an eye is king...”*





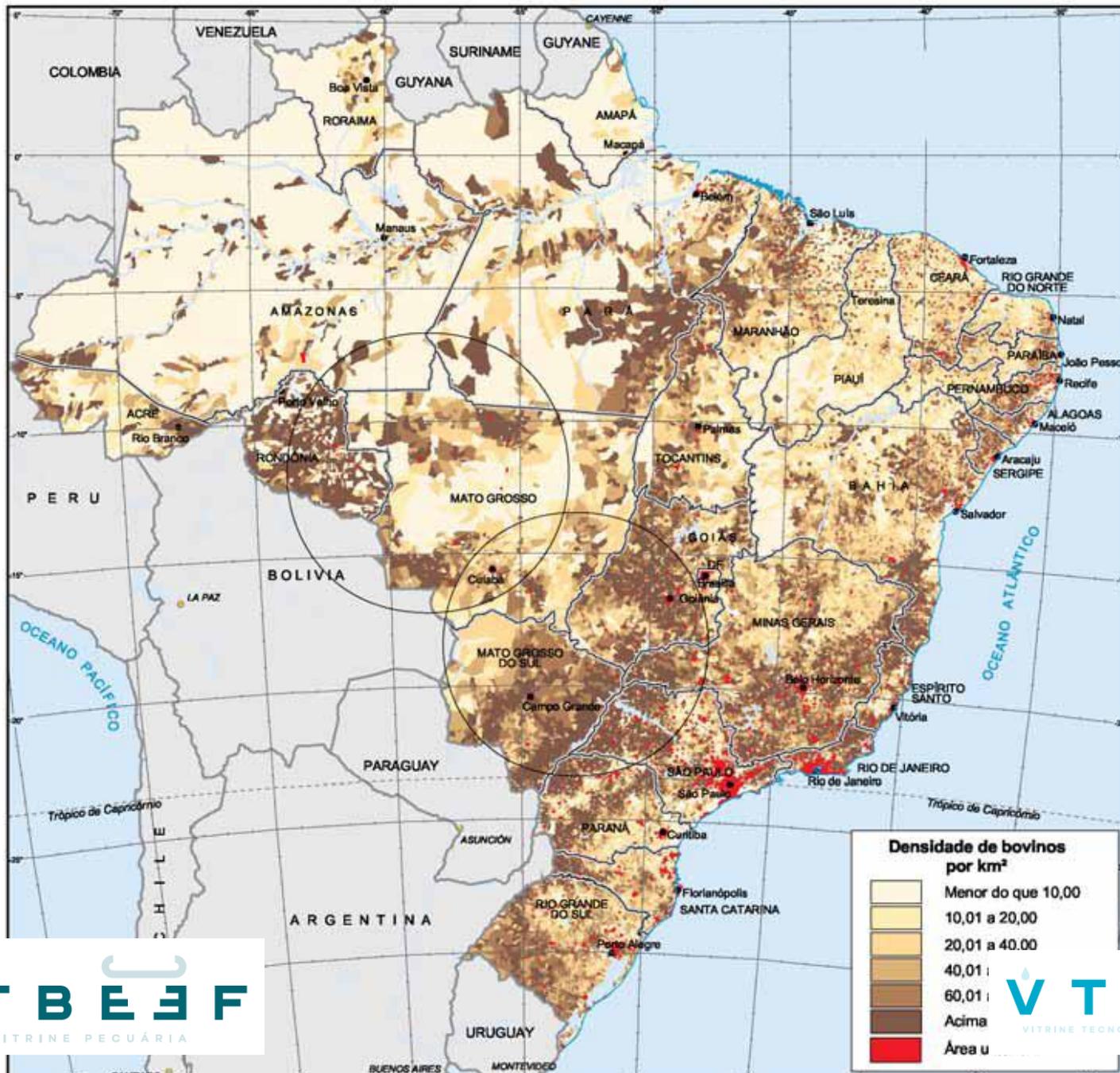
# Agricultural Areas x World Population

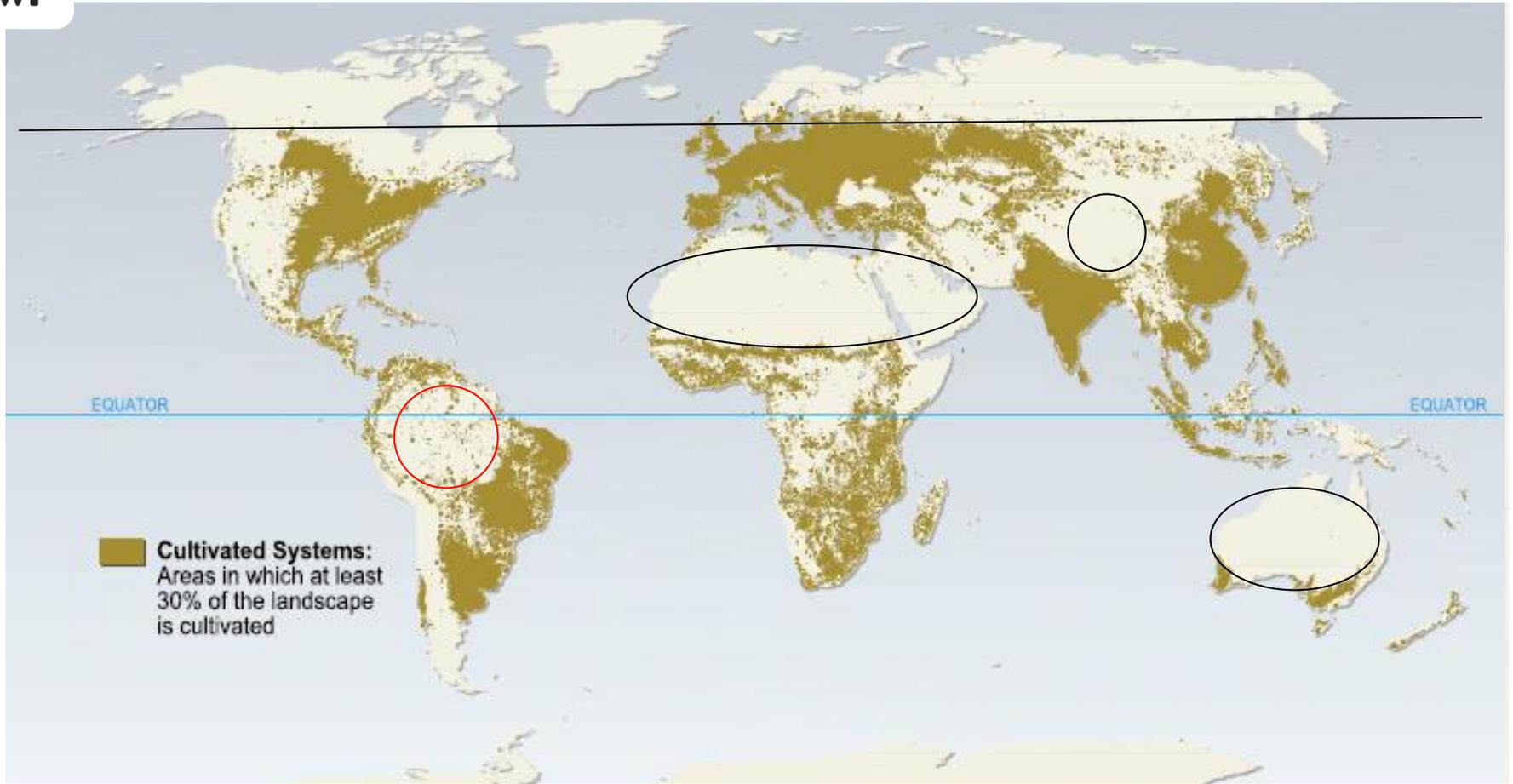


1970



2015





**33% of Earth surface is used for agricultural activities (55% of the inhabitable area of the planet)**

# Recommendations...?

- **Education** always (general public, politicians, social organizations)
- **Research** promoted and facilitated without constraints and barriers
- **Regulatory** processes facilitated and fully operational
- Social, economic and environmental awareness with science and facts basis

# Thank You!

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