



G20 International Workshop
on Water, Energy, Food Nexus
Virtual Meeting - 31 August 2020



Brazilian Efforts to Provide Quality and Sustainable Foods

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THE CHALLENGE

To improve global food systems in order to provide healthy, safe and sustainable foods to an increasing world population, estimated by FAO/United Nations to reach 10 billion by 2050 (FAO, 2020)



Research and Production

Integrated production

Animal wellness

Health

Crops biofortification

Specific dietary requirements

Food Security

Safety

Brazilian biodiversity

Nutrition

Microbioma modulation

Adding value to food chain

Loss and waste reduction

Plant based

Sustainability



BIOFORTIFICATION



Biofortified crops – varieties improved through selective breeding in order to achieve higher micronutrient contents

-sustainable use of water and energy, good agriculture practices



Sweet potato,
maize, cassava,
pumpkin

Common and
caupi beans, rice

40.000 families in Latin America- 2018





INTEGRATED PRODUCTION



Goal: safe food from sustainable and viable production systems

Bases

Guidelines (based on IPM, GAP, GMP, HACCP,..)

Records (field and industry books)

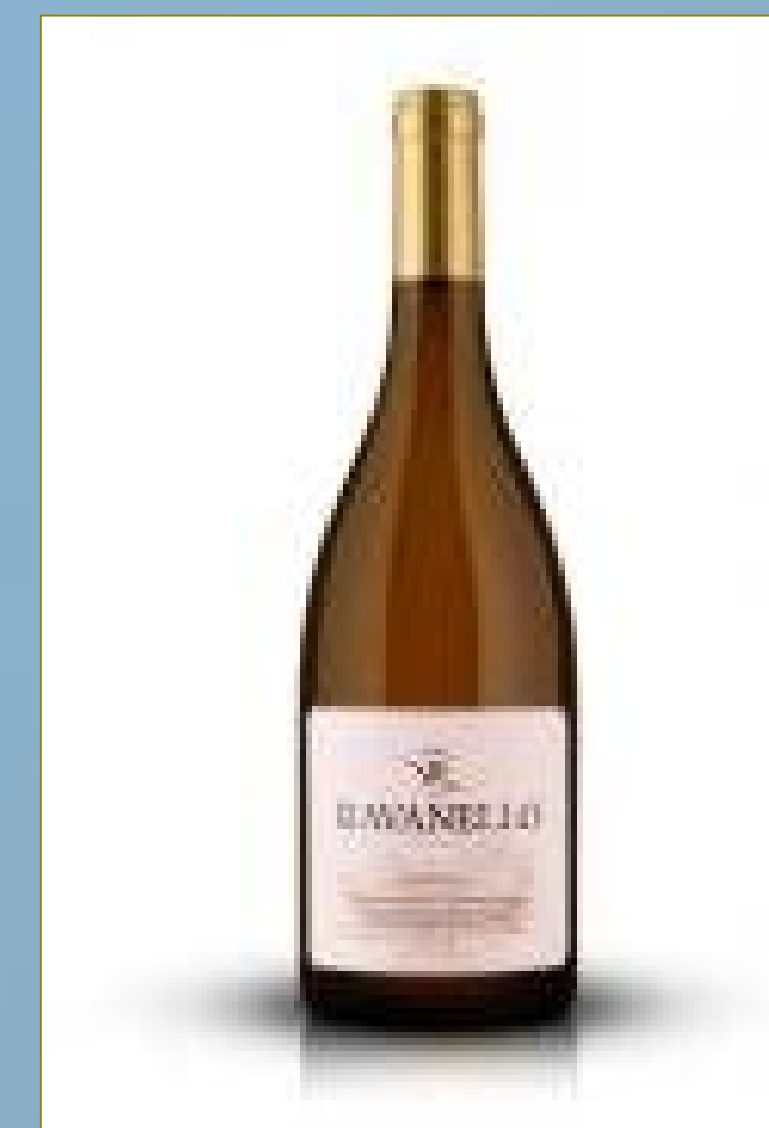
Certification



Inspired by European initiatives

Public policy since 2003 (Ministry of Agriculture)

Voluntary adoption





FOOD LOSS AND WASTE REDUCTION



Supporting public policies

- ✓ Intersectoral strategy for food loss and waste reduction in Brazil
Communication, education, training – value chain
- ✓ Technical notes for Brazilian Congress
- ✓ FAO Experts Committee for Latin America and Caribbean
- ✓ EU sectoral dialogues

SDG

- ✓ Design of methodology for losses and waste quantification

Food banks





FOOD LOSS AND WASTE REDUCTION



Innovative packaging system



Edible films from fruits and vegetables

Identification of critical points in commercialization chain
Biomolecules and nanoproducts for reducing post-harvest losses





PLANT BASED PRODUCTS



Protein sources:
pulses from beans,
chickpeas, lentils



Fibers and
Vegetable drinks



Use of coproducts and biodiversity raw materials
Reduction of environmental impact





BRAZILIAN BIODIVERSITY



Positive effects on health

- Antioxidant and anti-inflammatory activities
- Increasing of antioxidant enzymes
- Reduction of glycaemic and lipid parameters
- Modulation of gastrointestinal peptides
- Pre and probiotic





Illustration: José Bruno de Lima Bernardes / Probio-MMA

Thank you for your time !

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