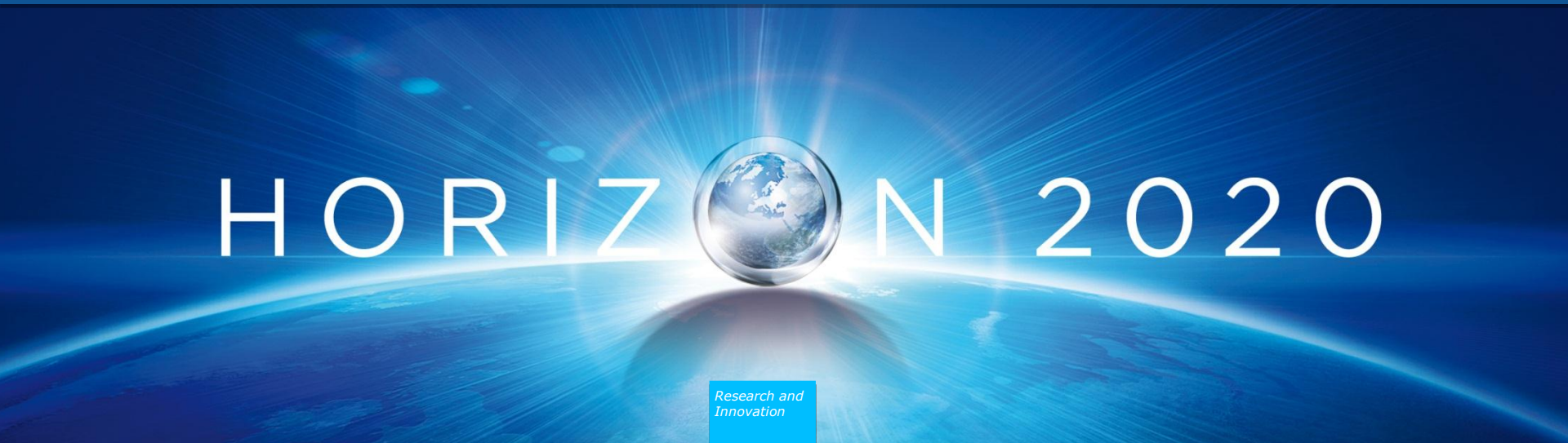
Research on Climate Smart Agriculture in FP7 (and H2020)

Massimo Burioni

European Commission
DG Research & Innovation
Directorate F.3 - Agri-Food Chain (and Forestry)



Research and Innovation

European Commission

Quick overview of:

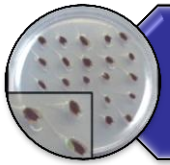
- Areas covered in FP7 – Theme 2 - KBBE
- Main topics published under FP7
- Projects funded
- Topics in H2020 first calls

European Commission

Sustainable Agriculture & Forestry in FP7 (2007-2014) Broad areas covered

Soil, Water, Carbon & Nutrients

Livestock productions



Genetics, Plant Breeding & Biodiversity

Agri Policy & Rural Development

European Commission

Soil, Water, Carbon & Nutrients Topics

Reducing the utilisation of mineral fertilisers by improving the efficiency of nutrient use in European crops

Novel approaches for reducing nitrogen losses

Towards land management of tomorrow - Innovative forms of mixed farming for optimized use of energy and nutrients

Reducing mineral fertilisers and chemicals use in agriculture by recycling treated organic waste as compost and bio-char products

Sustainable management of agricultural soils in Europe for enhancing food and feed production and contributing to climate change mitigation

European Commission

Soil, Water, Carbon & Nutrients Topics

Plant growth-promoting bio-effectors (microorganisms and active natural compounds) for alternative plant nutrition strategies in non-leguminous crops

Water stress tolerance and water use efficiency in food crops

Irrigation water saving solutions for Mediterranean agriculture

Precision technologies to improve irrigation management and increase water productivity in major water-demanding crops in Europe

European Commission

Soil, Water, Carbon & Nutrients Projects

- NUE-CROPS
- CANTOGETHER
- REFERTIL
- SMARTSOIL
- DROPS
- FIGARO
- OPIRIS
- EUPHOROS
- AGFORWARD
- INEMAD
- FERTIPLUS
- CATCH-C
- SIRRIMED
- TREAT&USE
- BIOFECTORS

European Commission

Livestock productions Topics

Reducing Nitrogen excretions in ruminants

New and converging technologies for Precision Livestock Farming in European animal production systems

Multifunctional grasslands for sustainable and competitive ruminant production systems and the delivery of ecosystem services

Integrating mitigation and adaptation options for sustainable livestock production under climate change

Efficiency of (terrestrial) livestock digestive systems and reduction of the ecological footprint through a combination of systems biology, 'omics' and nutrition

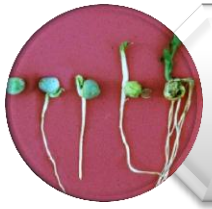
Development and exploitation of genomic data and tools, phenotyping approaches and breeding concepts to sustainable animal production systems

European Commission

Livestock productions Projects

- REDNEX
- LOWINPUTBREEDS
- BRIGHTANIMAL
- MULTISWARD
- ANIMALCHANGE
- RUMINOMICS
- ECO-FCE
- GPLUSE

European Commission



Genetics, Plant breeding & Biodiversity Topics

Annual Food crops with improved tolerance to multiple abiotic stresses

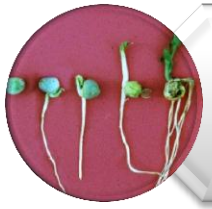
Legumes: key multifunctional legume crops for an energy-efficient and environmentally friendly future European agriculture

Improving performance and quality of crops in the context of organic and low-input systems by breeding and management

Characterisation of biodiversity resources for wild crop relatives to improve crops by breeding

Root signalling, growth and development under abiotic stress conditions

European Commission



Genetics, Plant breeding & Biodiversity Topics

Integrated approach to studying effects of combined biotic and abiotic stress in crop plants

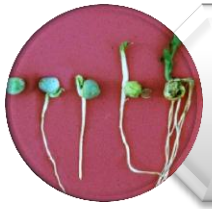
Translating knowledge on flowering time to improve breeding efficiency

Managing semi-natural habitats and on-farm biodiversity to optimise ecological services

Improving the capacity of agro-meteorological crop modelling to integrate climatic variability and extreme weather events

Legume breeding and management for sustainable agriculture as well as protein supply for food and feed

European Commission



Genetics, Plant breeding & Biodiversity Projects

- BIOBIO
- SOLIBAM
- PGRSECURE
- ROOTOPOWER
- SWUP-MED
- EUROLEGUME
- HEALTHYMINORCEREALS
- LEGUME-FUTURES
- FRUITBREEDOMICS
- EUROOT
- ABSTRESS
- MODEXTREME
- ECOSEED
- ADAPTAWHEAT

European Commission

Agri-Policy & Rural Development Topics

The farm of tomorrow

International food trade: Anticipating the impact of climate change on the safety of European and global food markets

Energy Efficiency in Agriculture

Development and application of methodologies and tools, indicators, for the assessment of environmental impacts of R&D programmes in the EU

Measurement of research impact in European agriculture

European Commission

Agri-Policy & Rural Development Projects

- *FUTUREFARM*
- *VEG-i-TRADE*
- *SUSTAINMED*
- *AGREE*
- *ENVIEVAL*
- *IMPRESA*

European Commission

H2020 SC2 "Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy"

"Securing **sufficient supplies of safe, healthy and high quality food** and other bio-based products, by developing productive, **sustainable and resource-efficient primary production systems**, fostering related ecosystem services and the recovery of biological diversity, alongside **competitive and low-carbon supply**, processing and marketing chains"

European Commission

H2020 SC2 Sustainable Food Security (SFS) 2014/1015 Calls

SFS-01a-2014: Genetics and nutrition and alternative feed sources for terrestrial livestock production

SFS-02a-2014: External nutrient inputs

SFS-04-2014: Soil quality and function

European Commission

H2020 SC2 Sustainable Food Security (SFS) 2014/2015 Calls

SFS-01c-2015: Assessing sustainability of terrestrial livestock production

SFS-02b-2015: Assessing soil-improving cropping systems

SFS-05-2015: Strategies for crop productivity, stability and quality

SFS-07b-2015: Management and sustainable use of genetic resources

European Commission

H2020 SC2 Innovative Sustainable Inclusive Bioeconomy (ISIB) – 2014/2015 Calls

ISIB-11-2014: Coordination action in support of the implementation by participating States of a JPI FACCE

ISIB-12a-2014: Sustainable and resilient agriculture for food and non-food systems

ISIB-12c-2015: Monitoring and mitigation of agricultural and forestry greenhouse gases (GHGs)

ISIB-12e-2015: Sustainable livestock production

European Commission

Find out more about H2020:

http://ec.europa.eu/research/participants/portal/desktop/en/home.html