

27 September 2021

BIOEAST Foresight Conference



**Strategic Research and Innovation**

**Agenda:**

**Future research directions for  
agroecology in the BIOEAST countries**

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# AGROECOLOGY TWG OBJECTIVES



To study and synthesize national agricultural research and innovation strategies in **order to support the elaboration of SRIA by developing a SRIA on Agroecology**



To set-up a network of relevant stakeholders of the **BIOEAST countries** to collect and discuss experiences with agroecological intensification R&I initiatives.



To stimulate a discourse on **CEE agricultural sector** development in light of targeted sustainable yields, agroecological farming practices, and the aim to strengthen competitiveness and create jobs.



To seek alignment of **national agendas, initiatives, financing sources** and investments in the CEE region and broader in the EU for creating an enabling environment for the SRIA.



# AGROECOLOGY TWG OBJECTIVES



To collect good agroecological examples from the macro-region



To mobilise the BIOEAST AE TWG member ministries to implement policy pilots for agroecological system development (e.g. by setting up "living labs")



To specify communication and dissemination tools and channels for sharing best practices in research and innovation targeting sustainable yields and agroecology



To contribute to the proposed European partnership on agroecology within the next research and innovation framework programme, Horizon Europe



To contribute to the programming of the national strategic plan of the Common Agricultural Policy in the related investment





## SRIA DEVELOPMENT

- 2019. Launch of the Agroecology TWG
- 2020. February BIOEAST Conference
- 2020. April – 2020. December Gathering national inputs for the thematic SRIA through national working groups
- **2021. February First draft of the SRIA**
- 2021. February-May Revision period
- **2021. June Submission** of the SRIA to the Board



# THEMATIC STRATEGIC RESEARCH AND INNOVATION AGENDA COMMON CHALLENGES

1. **Climatic and ecological** challenges (impacts of climate change, desertification, appearance of new diseases and pests, biodiversity loss etc.);
2. Developing **long-term, strategic system-thinking and planning in agricultural policy and among stakeholders** (decision-making process on natural resources, modelling, monitoring to support evidence-based decision-making, support mechanisms for public service provision);
3. Challenges related to **agricultural economics, diversity of production systems and farm size** (small vs. large-scale production, rural livelihood);
4. Developing **knowledge and expertise via innovation systems and knowledge transfer** – in general, access to knowledge and information (especially in relation to precision agriculture, IT, business models, funding sources, innovative solutions in agroecology, circular economy and bioeconomy);



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5. Fostering the **transition process of input intensive farms toward agroecological practices** via identifying and resolving economic, technological and other lock-ins;
6. Measuring up to **expectations of maintaining current yields with sustainable methods** in a changing climate;
7. **Overcoming a strong “top-down” and monodisciplinary** approach characteristic among stakeholders;
8. **Fostering openness, transparency** and motivation for innovation and cooperation among stakeholders;
9. Enhancing the **participation of societal stakeholder groups** (NGOs, civil organizations) in decision-making processes.





# THEMATIC STRATEGIC RESEARCH AND INNOVATION AGENDA

1. Soil
2. Transition to chemical pesticide-free agriculture
3. Genetic Resources and Agricultural Diversification
4. Innovation, Smart Agriculture, Digitalisation and Knowledge Sharing
5. Animal Health and Welfare
6. Local Food Systems and Rural Development





# FUTURE RESEARCH DIRECTIONS



**SOIL**

Soil-development cultivation technologies (environmentally sound, low emission) for increased adaptive capability

Improving the carbon retention/carbon sequestration capacity of soils, long-term impact of irrigation on soils

Development of methods for sustainable organic matter management that determine soil fertility and health

Establishment of scientific bases for soil advisory systems, aiming of soil conservation managements and sustainable land-use focused on erosion control



**Pesticide-  
Free  
Agriculture**

Measurement of ecosystem services of farming and monitoring of changes linked to farming practices (e.g. organic, conventional)

Monitoring and forecasting of old and new pests, invasive species

Mapping of traditional farming and ecological knowledge in the BIOEAST region, possibilities for the adaptation of identified practices

Digitisation in plant protection to prevent the use of chemical pesticides and reduce the current level of their application

## FUTURE RESEARCH DIRECTIONS



**GENETIC  
RESOURCES**

Boosting the organic seed sector

Spread of interdisciplinary and multi-stakeholder participatory plant breeding practices

Plant and animal breeding research on new, biotic and/or abiotic stress-resistant genotypes

Research on crop diversification e.g. mixed cultivation of crops, mixtures of varieties, heterogeneous materials, intercropping



**INNOVA-  
TION**

Developing innovation ecosystems, including identifying and using tools for closer cooperation between agricultural stakeholders

Innovation tracking. Identification of research methods suitable for involving various farmers  
voluntary data reporting

Working out ICT solutions, particularly to ensure the sustainability and efficiency of agricultural production.

## FUTURE RESEARCH DIRECTIONS

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### LOCAL FOOD SYSTEM

Development, collection and dissemination of small-scale farming solutions and technologies, as well as research into the viability of the small-scale model

Development of circular business models to strengthen local food supply chains

Development of data-based decision support systems for climate adaptation in rural areas

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### ANIMAL HEALTH

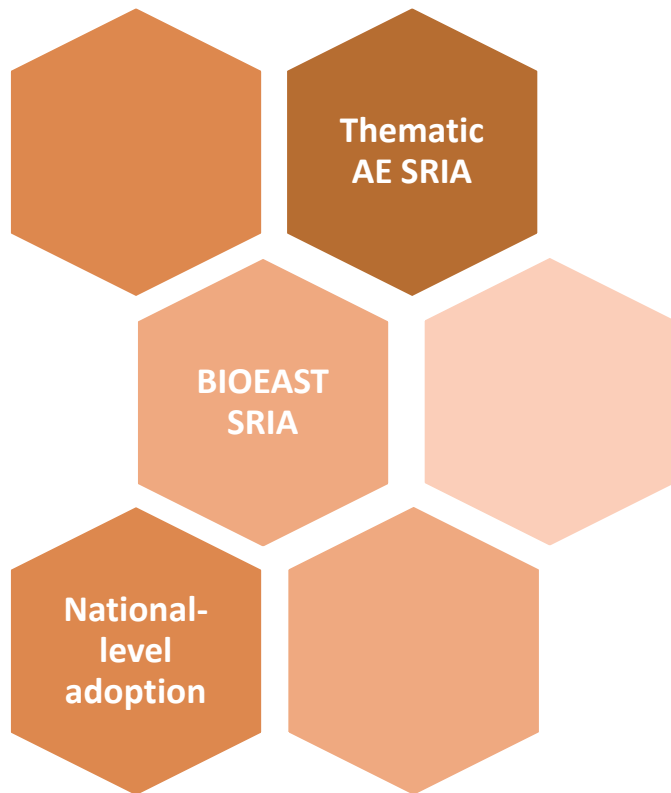
Reduction in the use of antimicrobials using new diagnostic methods

Breeding of animals for longevity, opportunities for the production and increased utilisation of domestic genotypes

Grass-fed ruminants: studying the impact of the various grazing methods, the impact of grazing animals on biodiversity



## NEXT STEPS





THANK YOU FOR YOUR ATTENTION!

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