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Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments

FP7 – Research in the field of biotechnology, agriculture, food, fishery and forestry a cooperation between EU, Balkan region and Eastern European neighbourhood area

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FP7 Specific Programmes

Cooperation – Collaborative research

10 Thematic Priorities

	€ M
1. Health	6.050
2. Food, agriculture and biotechnology (FAB)	1.935
3. Information and communication technologies	9.110
4. Nanosciences, nanotechnologies, materials and new production technologies	3.500
5. Energy	2.300
6. Environment (including climate change)	1.900
7. Transport (including aeronautics)	4.180
8. Socio-economic sciences and the humanities	610
9. Space	1.430
10. Security	1.350

+ Euratom: Fusion energy research, nuclear fission and radiation protection




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FP7 - Thematic 2 : 3 Activities

2. Food, Agriculture and Biotechnology

- 2.1 Sustainable production and management of biological resources from land, forest, and aquatic environments
- 2.2 "Fork to farm": Food, health and well being
- 2.3 Life sciences and biotechnology for sustainable non-food products and processes



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FP7 - Thematic 2 : 3 Activities

In the first few year of the FP7 the focus is on topics that:

- cover new areas, as compared to FP6, or
- are necessary continuation or follow-up of previously funded European projects, and/or
- are of high priority and European added value in terms of recent policy developments



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Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments

Areas

- 2.1.1 Enabling research
- 2.1.2 Increased sustainability of all production system; Plant health and crop protection
- 2.1.3 Optimised animal health, production and welfare across agriculture, fisheries and aquaculture
- 2.1.4 Socio-economic research and support to policies





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Area 2.1.1 Enabling research for micro-organism, plants and animals

- on key long term drivers of sustainable production and management of biological resources (microorganisms, plants, animals)
- „omics" technologies (genomics, proteomics, metabolomics)





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Activity 2.1

Area 2.1.1 Enabling research

FPT-KBBE-2007-1

- Development of new tools and processes to support R&D in crop plants: molecular breeding
- Mining genomics information of farm animals to generate new information on the genetic basis of phenotypes important to sustainable animal production

FPT-KBBE-2007-2A

- Development of genetic systems for crop improvement through a systems biology approach
- Development of technologies and tools for the exploitation of livestock genome
- Using new technologies to identify (re-)emerging pathogens from wildlife reservoirs




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Activity 1

Area 2.1.2 Increased sustainability of all production system; Plant health and crop protection

- For land based biological resources special emphasis will be placed on low input (pesticides, fertilisers)
- Plant health and crop protection will be improved – better understanding o ecology, pests, diseases
- Aquatic environments: essential biological function, safe and environmentally friendly production




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Activity 1

Area 2.1.2 Increased sustainability of all production system; Plant health and crop protection

FPT-KBBE-2007-1

- Improving water stress tolerance in European food crops
- Annual Food crops with improved tolerance to multiple abiotic stresses
- Genomics for cereal improvement for food and non-food uses
- Development of more efficient risk analysis techniques for pests and pathogens of phytosanitary concern
- Reducing the need for external inputs in high-value protected horticulture
- Novel forest tree breeding
- Developing new methods for valuing and marketing of currently non-marketable forest goods and services




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Activity 1

Area 2.1.2 Increased sustainability of all production system; Plant health and crop protection

FPT-KBBE-2007-1

- Coordination of Agricultural Research in the Mediterranean
- Reduction of nitrogen excretion in ruminants
- From capture based to self-sustained aquaculture
- Improving cost-efficiency in the fisheries
- Improving research in support to scientific advice to fisheries management outside EU waters
- Consolidate alliances with third countries in the field of aquaculture
- The structure of fish populations and traceability of fish and fish products




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Activity 1

Area 2.1.2 Increased sustainability of all production system; Plant health and crop protection

FPT-KBBE-2007-2A

- Reducing the utilisation of mineral fertilisers by improving the efficiency of nutrient use in European crops
- Essential biological functions related to the most relevant stages of aquaculture fish life-history




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Activity 1:

Area 2.1.3 Optimised animal health, production and welfare across agriculture, fisheries and aquaculture

- Addressing developing tools for monitoring, development and control
- Research on vaccines ; diagnostics, studying the ecology of known or emerging infectious agents
- Impacts of different farming systems and climate
- New knowledge for the safe disposal of animal waste




 **Activity 1:**

Area 2.1.3 Optimised animal health, production and welfare across agriculture, fisheries and aquaculture

FP7-KBBE-2007-1

- Breeding tools for improved livestock products
- Coordination of European research in the area of animal health, including emerging threats, infectious diseases and surveillance
- Optimising research efforts for the development of the most effective tools for controlling infectious animal diseases
- Development of rational strategies for the eradication of bovine tuberculosis
- Evaluating and controlling the risk of African Swine Fever in the EU
- Emerging vector-borne diseases: West Nile fever, Rift Valley Fever and Crimean-Congo haemorrhagic fever



 **Activity 1:**

Area 2.1.3 Optimised animal health, production and welfare across agriculture, fisheries and aquaculture

FP7-KBBE-2007-2A

- Improving animal health, product quality and performance of organic and low-input livestock systems through integration of breeding and innovative management techniques
- Improved epidemiological tools for food-borne zoonoses: application of geographical information for live animals and animal products
- Neglected zoonoses in developing countries: integrated approach for the improvement of their control in animals



 **Activity 1**

Area 2.1.4 Socio-economic research and support to policies

- providing the tools needed by policy makers and other actors to support the implementation of relevant strategies, policies and legislation and in particular to support the building of the KBBE
- CFP will be supported through the development of adaptive approaches
- CAP and all other policies will include socio-economic studies and cost-benefit analysis



 **Activity 1:**

Area 2.1.4 Socio-economic research and support to policies

FP7-KBBE-2007-1

- Developing the knowledge-based bio-economy (KBBE)
- Enabling efficient transfer of technology in the knowledge-based bio-economy
- The farm of tomorrow
- GMO cost effective and crop-specific co-existence measures
- Comparative analysis of factor markets for agriculture across the Member States
- Enlargement network - Agro-economic policy analysis of the accession and the candidate states and the countries of Western Balkan
- Drivers and limits of enhanced trade in agricultural and food products
- Trade and agricultural policies - India
- Policy and institutional aspects of sustainable agriculture and rural development in the Mediterranean partner countries
- Societal Benefits of Organic Farming
- Costs of different standard setting and certification systems for organic food and farming



 **Activity 1:**

Area 2.1.4 Socio-economic research and support to policies

FP7-KBBE-2007-1

- Containment of Sharka virus in view of EU-expansion
- Assessing the socio-economic consequences and costs benefits of measures promoting good animal welfare
- Establishment of an information platform on the protection and welfare of animals
- Models for the extrapolation of maximum residue limits (MRLs) in the food chain
- External costs of pesticides
- Governance for an operational regional ecosystem approach to fisheries management
- Addressing uncertainty and complexity – governance for fisheries management
- Interactions of fisheries and aquaculture of bluefin tuna



 **Food, agriculture, fisheries and biotechnology research: Activity 2.1**

- Activity 2.1 "Sustainable production and management of biological resources" - new
- Some topics under activity 2.1 partly financed in FP4 and FP5 (BIOTECH, FAIR, QoL, etc.), but FP6 efforts scattered and not of sufficient critical mass providing no synergies



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FP7 Specific Programmes

Policy supports

Research will provide the knowledge base needed to support:

- Common Agricultural Policy (CAP)
- EU Forest Strategy
- Forestry Action Plan
- agricultural and trade issues
- Common Animal Health Policy (CAHP)
- Development Policy
- Common Fisheries Policy (CFP)

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FP7 - Thematic 2 : 3 Activities

SMEs

The work programme of this Thematic 2 is designed to attract industrial participants, in particular SMEs

- End-users of new technologies
- Technology providers
- Technology-based biotechnology companies

It is expected that SMEs are involved in all relevant research projects that aim to support competitiveness of European industries.

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Technology Platform – A new tool

For the 7th Framework Programme, the EU Commission has created a new tool, Technology Platform, characterised by

- Shared vision
- Long-term perspective (2030)
- Major challenges

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Key deliverables of a Technology Platform

1. **Vision document**
 - Shared Vision
 - Key Challenges
 - Strategic Objectives
2. **Strategic Research Agenda, including plan for funding**
3. **Implementation**

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Activity 1 European Technology Platforms

Sustainable production

- Plants for the future: Exploitation of genomics for improved crops
- Forestry based sector: Exploitation of forest-based products
- Sustainable farm animal breeding and reproduction: Exploitation of genomics and breeding technologies
- Global animal health: Vaccines and diagnostics
- Other ETPs:
 - » Food for life
 - » Industrial Biotech
 - » Biofuels

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Knowledge Based Bio-Economy

European Biofuels TP

SusChem Industrial biotechnology www.suschem.org

Food for Life <http://etp.ciaa.be>

FABRE-TP Farm Animal Breeding www.fabretp.org

ETP Global Animal Health www.ifah.be/Europe/EUPlatform/Platform.htm

ETP Plants for the Future www.epsoweb.org

Forest-Based Sector Technology Platform www.forestplatform.org

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Further Information

- EU research: <http://ec.europa.eu/research/>
- Seventh Framework Programme:
http://ec.europa.eu/research/future/index_en.cfm
- Information on research programmes and
projects: <http://cordis.europa.eu/>
- Information requests: research@ec.europa.eu