CORE organic II

Project acronym

CORE Organic II

Project title

Coordination of European Transnational Research

in Organic Food and Farming Systems

Deliverable 2.2:

List of topics prioritised according to national and common criteria to be considered for transnational calls

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1 Introduction

The overall goal of work package 2, "Identifying research topics for transnational calls", was to identify research topics for transnational calls within CORE Organic II. This deliverable first provides an overview on the selection and prioritization processes for the 1st, 2nd and 3rd call, then presents the research topics initiated under CORE Organic II and finally identifies remaining research gaps.

This deliverable refers in several aspects to the deliverables 2.1 and 2.3, finalized earlier. Here we summarize the main experiences to share with other ERA-NETs.

Furthermore we provide an update of relevant aspects around research on organic food and farming in the partner countries. Towards the end of CORE Organic II, we made an update of a survey carried out in 2010 and described in deliverable 2.1. The updated tables are presented in the annex.

2 Selection and prioritization of research topics

2.1 Process

The main challenge for successful prioritization and selection of research topics is to identify research areas that are in accordance with national research priorities and at the same time gain an added value through transnational research. The process of selection and prioritization for the first two calls is described in deliverable 2.3.

Research in organic food and farming covers a broad field of topics (Drinkwater 2009; Ollivier et al. 2011). Therefore, it was important to create a common map of the research landscape for all partners. The same system of categorization, namely the open archive Organic Eprints served as a common basis for all selection processes under CORE Organic II.

The following procedure for selection and prioritization was efficient and successful as it allowed the active participation of the partners involved in all relevant steps.

1. Survey by email carried out by the responsible work package team amongst all partners asking them to submit research topics at the beginning of the ERA-NET. The collected research questions form the basis throughout the entire ERA-NET. Every research question can be tracked back to the partner who proposed it.[1]
2. Categorization and clustering of research questions into research areas by the responsible work package team. Its experience to present the result of this clustering process at a face-to-face meeting was positive, as partners need to understand and discuss how their inputs have been considered.[2]
3. In order to facilitate a targeted discussion amongst the partners, the responsible work package team recommends presenting a pre-selection of possible thematic research areas (about twice the number of call topics planned). This pre-selection should be based on the quantitative support by the partners, innovation aspects and consider research activities in other European research projects. This presentation should contain a first draft of a rationale and call description to allow for a targeted discussion at the same face-to-face meeting like the step above.
4. To conclude the discussion on the pre-selected topics partners should allocate funds to each research area. Applying this step usually helps to clarify which topics should be further developed and which ones will not reach sufficient funds.
5. Call-boards, consisting of representatives of related funding partners, should be formed for each topic. The call-board leader should be active until the outcomes of the evaluation process.

Steps 2 to 5 should take place at a face-to-face meeting, as these discussions and decisions are extremely important to better understand the expectations of the partners. This dialogue prepares the common ground for the further elaboration on the call text led by the work package team together with the call board leaders. For this purpose, it is recommendable to set up a commenting site on the intranet, and additional phone conferences should be held to clarify details of the call text. Two months after the first presentation, the final call text is usually ready to be approved by the partners.

[1] The outcome of this survey was a list with 92 research questions (see D 2.1, annex, table A3, p. 22-27).
[2] The outcome of this clustering process is seven main thematic research areas with 19 sub-topics (see D 2.1, table 3, p. 11).

2.2 Lessons learnt

- Positions on prioritized topics differed among countries, ranging from problem-solving approaches as identified in national priorities to innovative topics supported by transnational approaches. The partners had to find a balance between prioritization based on expert knowledge, existing national programs and scientific consistency with transnational added value.
- The process of asking partners for research priorities and new thematic research areas showed some limitations regarding creating innovation. For example, in our last survey in 2012, 74 research questions were proposed under the category “new”. But less than a third could be classified really as new. They covered either a very narrow or a very broad topic. In the future, more attention is needed to further develop these inputs from the partners into thematic research areas with a great potential for innovative research projects.
- On the communication level, the challenge is to keep the partners on-board by including their preferences without losing a clear focus for each thematic area. The inputs of the partners need to be considered carefully by the call board-leaders and should be explained in case they cannot be included. On the other side, partners clearly need to distinguish between “must” and “nice-to-have” inputs.
- The extent of the research topics described in the call text needs to be considered with care: A too narrow focus might exclude potential applications, while a too broad call text might result in less targeted research proposals. An early commitment of funds helps to identify a realistic size of the research areas. Another possibility to avoid too broad call texts is to divide large thematic research areas into smaller sub-calls gathering countries with similar interests.
- Sometimes a research topic is very important for some partners but not for others. We made good experiences to allow partners to indicate those sub-topics they do not want to fund. This makes it easier to come to a common call text.
- In the consensus building among partners, a possibility was offered to the members of the governing board to amend the weighting suggested by responsible work package leader to rank projects after the first stage of the project evaluation (November 2010). Likewise, supportive elements consisted of a mapping of likely collaborations among countries, considering a short list of projects with high ranking.
- The evaluation process also includes a political dimension, related to the inclusion of partner countries in a specific project corresponding to the country priority research area and funds available, when these countries have both a budget allocated and research teams likely to contribute.

3 Mapping the thematic research areas

3.1 Overview on research needs

In order to have an overview on the importance of different research areas, the research field for OFF has been clustered into nine research areas[3], and the CORE Organic partner countries were asked to quantify these thematic research areas according to their importance for future research. As shown in figure 1, the thematic research areas *crop production, quality of organic food, animal husbandry* and *socio-economics* are important or partially important for all countries. The other thematic research areas – except *standards and values* – were supported by at least 80 % of the partners. A more in-depth description of the research gaps follows in the next section.

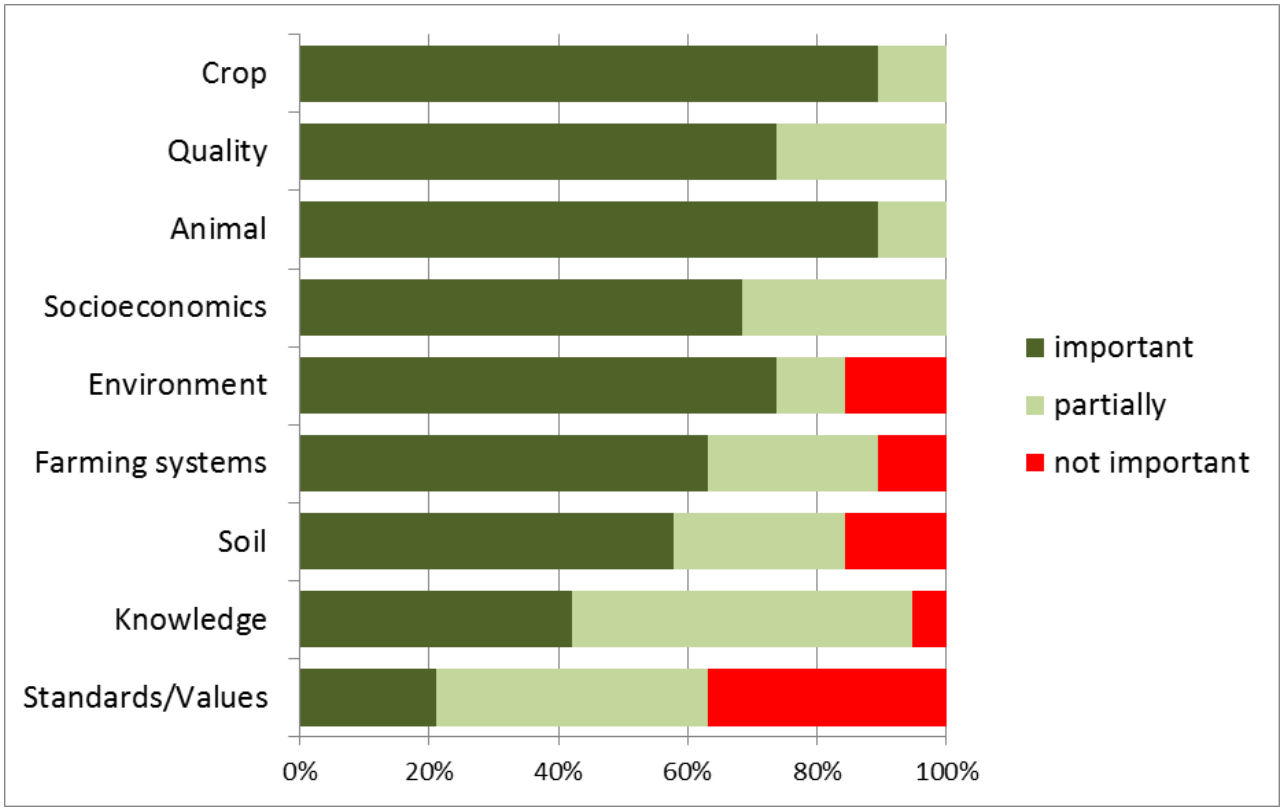

Fig 1: Importance of thematic research areas for OFF as perceived by the CORE Organic II partner countries in 2012.

[3] These categories are based on the main subject areas used in the literature database www.orgprints.org

3.2 Research needs and calls

During CORE Organic II, three calls covering six thematic areas were launched. The first call was launched in September 2010 and covered three thematic research areas: 1) cropping, 2) monogastric animals and 3) quality.[4] This reflects the priorities presented in Fig. 1. The second call was launched in October 2011 covering the thematic research areas 4) breeding and 5) market development.[5] The third call was launched in June 2012 on 6) phosphorus management.[6] The first call resulted in 11 selected projects including six on cropping, three on monogastric animals, and two on quality. For the second call, two projects – one for breeding and one for market – have been selected and in the third call one project has been selected. For more details see Table A1 in the annex.

In Table 1, the research priorities identified by the partners are presented. Within the research area *crop production*, the sub-topics *plant protection, plant nutrition* and *breeding/varieties* had the strongest research needs and the following three items for call texts have been developed:
1 Designing robust and productive cropping systems at field, farm and landscape level
2 Improvement of production efficiency and agricultural biodiversity within cropping systems by using eco-compatible breeding techniques
3 Sustainable and efficient management of phosphorus and use of secondary fertilizers within organic agriculture

The research area *animal husbandry* was divided into production systems for ruminants and monogastrics. *Feeding* (protein gap) is considered as a very important research topic to be solved within the production system. The CORE Organic II call text derived from these topics and was entitled:
4 Robust and competitive production systems for pigs, poultry and fish

For food quality, the consortium identified important research gaps for food processing which is considered in the call text:
5 Ensuring the quality and safety of organic food along the whole chain

The research area market development addressed challenges and options to move organic production from niche to volume. The call text was entitled:
6 Supporting the development of organic markets

[4] With a budget of 9.2 million Euros, about 6 million Euros were allocated to research area 1
[5] With a budget of 4.9 million Euros
[6] With a budget of 0,86 million Euros as a real common pot call with six countries involved

Table 1: Research gaps identified at the beginning of CORE Organic II related to research projects initiated during CORE Organic II.

Research area	Research gaps (number of nominations by partners)	Research projects initiated under CO II
Crop production and soil	Plant protection (17); Plant nutrition (15); Breeding, varieties (14); Weed control (7); Soil fertility (7)	**Plant protection:** BICOPOLL: Biocontrol in strawberries SOFTPESTMULTITRAP: Control of pest insects in organic strawberry and raspberry VINEMANORG: control of grape diseases **Plant nutrition:** INTERVEG: Enhancing multifunctional benefits of cover crops in vegetable production IMPROVE-P: Improved phosphorus resource efficiency via recycling and enhanced biological mobilization **Breeding**: COBRA Coordinating, linking and expanding on-going organic breeding activities in cereals and grain legumes across Europe
Animal husbandry	Feeding (13); Animal health (9); Production systems (7); Animal welfare (4); Robust breeds (4)	**Feeding:** ICOPP: Developing sustainable 100% organic feed strategies for pigs and poultry **Health:** SAFEORGANIC: Benefits from restricted antibiotic usage in organic pigs HEALTHY HENS: disease management, animal welfare and impacts on the environment on organic laying hen farms **Welfare:** PROPIG: Strategies to reduce environmental impact by improving health and welfare of organic pigs
Food quality	Processing (13); Health and Nutrition (9); Food safety (7); Quality influencing factors (6)	**Food safety:** AUTHENTICFOOD: Methods for authentication of organic plant based foods
Socio-economics	Sector development (13); Market development (10);	**Market development:** HEALTHYGROWTH investigates successful mid-scale organic value chains in order to learn how they are able to combine volume and values
Environment	Climate change (11); Assessment of environmental performance (10)	
Farming systems	Resource use (11)	**Resource use:** BIO-INCROP: New technologies based on biodiversity and natural resources in fruit production TILMAN-ORG: reduced tillage and green manures in organic cropping systems

Research gaps addressed in CORE Organic II projects are marked in green.

3.3 Research needs and topics covered by the selected projects

The comparison of research gaps and the projects selected in table 1 indicates to which extent the research needs are addressed.

Crop production and soil: In total, seven projects are addressing the research gaps in crop production, three for *plant protection*, three for *plant nutrition* and one for *breeding*. Research on *plant protection* has been carried out for special crops such as berries and grapes. *Plant nutrition* in vegetable is covered by one project. Two projects (TILMAN-ORG and BIO-INCROP) follow a system approach and are addressing different management aspects in arable and fruit production systems. It can be concluded that CORE Organic II has initiated projects covering a relevant part of the research needs for crop production. Not covered gaps are *weed control* and *soil fertility*. Table 1 in the annex provides more details on the thematic research areas including the sub-topics described in the call texts. Accordingly, the aspect on *"Identifying innovative and viable forms of collaboration between farms to increase productivity"* has not been covered by the selected projects so far.

Animal husbandry: For the research area animal husbandry CORE Organic II has set a focus on monogastric animals as several projects on ruminants had been carried out during CORE Organic I. The four selected projects have initiated activities on *feeding, health* and *welfare*, whilst *production system* and *robust breeds* remain in the background. According to table 1 in the annex, research on *aquaculture* is still lacking.

Food quality: The selected project on authentication of organic plant based food sets a focus on *food safety*, whilst research needs on *processing, health and nutrition* and *quality influencing factors* are not covered.

Socio-economics: The selected project covers market development and the topic sector development is not addressed.

Environment: This research area was not considered as a main issue in the projects selected in CORE Organic II, although considered as important by the partners according to Fig.1.

3.4 Possible thematic research areas for CORE Organic Plus

Towards the end of CORE Organic II, a final survey on research priorities was carried out amongst the partners resulting in eight potential research topics. In table 2, these thematic research areas are allocated to the existing category system. The proposed research area *plant/soil interaction* will allow for projects covering the gaps on *weed control* and *soil fertility*, and at the same time developing best practices on soil management with relation to *pest and disease control*. The research area *plant protection* through functional biodiversity would allow continuing research activities in this field with a system approach.

The proposed research area for livestock includes *health management* at a production system level and covers the remaining gap of *breeding*. Reducing concentrates is dealing with aspects of *feeding* and *animal health*.

For food quality, the potential research area would contribute to close gaps on the *processing chain* and the research area *mainstreaming* would strengthen the area of *sector development*. The proposed research area on *reducing the environmental effects* would set a focus on a topic, which has not been addressed so far. To *facilitate dissemination across borders* reflects the increasing importance to this topic given by the CORE Organic partners in the survey of 2012 (see Fig. 1). Additional contributions were opened to partner countries to propose other research questions.

Table 2: Research gaps identified at the beginning of CORE Organic II related to future thematic research areas proposed for CO Plus.

Research area	Research gaps (number of nominations by partners)	Potential thematic research areas proposed for CO Plus
Crop production and soil	Plant protection (17); Plant nutrition (15); Breeding, varieties (14); Weed control (7); Soil fertility (7)	• Crop: Plant/Soil interaction • Plant protection: Functional biodiversity to improve management of pests and diseases
Animal husbandry	Feeding (13); Animal health (9); Production systems (7); Animal welfare (4); Robust breeds (4)	• Livestock health management system including breeding • Reduce concentrate in dairy production; efficient use of roughage respectively pasture
Food quality	Processing (13); Health and Nutrition (9); Food safety (7); Quality influencing factors (6)	• Ensuring quality and safety of organic food along the processing chain
Socio-economics	Sector development (13); Market development (10);	• Mainstreaming organic food and farming
Environment	Climate change (11); Assessment of environmental performance (10)	• Reducing the environmental effects of organic agriculture throughout the value chain
Farming systems	Resource use (11)	
Knowledge		• Develop systems to facilitate dissemination to end users – across borders

Research gaps addressed in CORE Organic II projects are marked in green.

The selection of topics will be based on the amount of funds allocated by each country.

4 References

Drinkwater L. E. (2009) Ecological Knowledge: Foundation for Sustainable Organic Agriculture. In: C.A. Francis (ed.) Organic Farming: The Ecological Systems, Agronomy Monograph 54, p. 19-47.

Ollivier G., Bellon S. and Penvern S. (2011) Thematic and citation structure dynamics of Organic Food & Farming research. In: Neuhoff D. (ed.) 3rd ISOFAR Scientific Conference at the 17th IFOAM Organic World Congress, Gyeonggi Paldang, Republic of Korea, 28/09-01/10/2011, pp. 4.

5 Annex

Table A 1: Thematic research areas and research gaps identified by CORE Organic II partners; Research gaps are related to call description and selected projects in the 1st, 2nd and 3rd call

Research area	Research gaps	Call titles and sub-topics	Call	Selected projects 1st , 2nd and 3rd call
Crop, soil and farming systems		**1) Designing robust and productive cropping systems at field, farm and landscape level**	**1st**	
	Plant protection	1a) Improving pest, weed and disease control in horticultural production and other relevant cropping systems (…)	1st	BICOPOLL: Biocontrol in strawberries SOFTPESTMULTITRAP: Control of pest insects in organic strawberry and raspberry VINEMANORG: control of grape diseases
	Plant nutrition	1b) Increasing the efficiency and availability of nutrient supply (…)	1st	INTERVEG: Enhancing multifunctional benefits of cover crops in vegetable production
		6) Sustainable and efficient management of phosphorus and use of secondary fertilizers within organic agriculture	**3rd**	IMPROVE-P: Improved phosphorus resource efficiency via recycling and enhanced biological mobilization
	Breeding, variety testing	**4) Improvement of production efficiency and agricultural biodiversity within cropping systems by using eco-compatible breeding techniques** 4a) Methods and procedures in seed production to ensure vital seeds (…) and methods to control seed borne diseases 4b) Improvement of plant breeding efficiency (…) through transnational collaboration of existing private and public breeding programmes (…) 4c) Breeding schemes, breeding and selection techniques (…) aiming at obtaining varieties that can cope with problems (…) such as seed borne diseases, low nutrient levels or adaption to mechanical weed control 4d) Identification and development of targets and approaches to deliver effective disease management through a combination of breeding, crop husbandry and seed production (…)	**2nd**	COBRA Coordinating, linking and expanding on-going organic breeding activities in cereals and grain legumes across Europe
	Weed control			
	Soil fertility			

Research area	Research gaps	Call titles and sub-topics	Call	Selected projects 1st , 2nd and 3rd call
	Resource use	1c) Reducing the use of problematic off-farm inputs and minimising emissions (…)	1st	TILMAN-ORG: reduced tillage and green manures in organic cropping systems BIO-INCROP: New technologies based on biodiversity and natural resources in fruit production
	other	1d) Identifying innovative and viable forms of collaboration between farms to increase productivity (…)	1st	
Animal husbandry		**2) Robust and competitive production systems for pigs, poultry and fish**	**1st**	
	Feeding	2a) Organic feed (including 100% organic feed) (…) for poultry and pigs (…)	1st	ICOPP: Developing sustainable 100% organic feed strategies for pigs and poultry
	Health	2b) Disease management strategies based on prevention and alternative treatments (…)	1st	SAFEORGANIC: Benefits from restricted antibiotic usage in organic pigs HEALTHY HENS: disease management, animal welfare and impacts on the environment on organic laying hen farms
	Production systems			
	Welfare	2c) Animal welfare in relation to housing and the use and management of outdoor areas (…)	1st	PROPIG: Strategies to reduce environmental impact by improving health and welfare of organic pigs
	Robust breeds			
	other	2d) Aquaculture: health and feeding	1st	
Food quality		**3) Ensuring quality and safety of organic food along the whole chain**	**1st**	
	Processing	3a) Careful processing (…) limiting the use of additives (…)	1st	
	Health and nutrition	3b) Quality criteria, analysis methods and technologies ensuring the quality of organic products during processing (…)	1st	
	Food safety	3c) Development of analytical methods (…) for documentation of organic production and for the prevention of fraud	1st	AUTHENTICFOOD: Methods for authentication of organic plant based foods
	Quality influenc-ing factors			

Research area	Research gaps	Call titles and sub-topics	Call	Selected projects 1st , 2nd and 3rd call
Socio-economics				
	Sector develop-ment			
	Market develop-ment	**5) Supporting the development of organic markets** 5a) Identify options and challenges in moving organic production from niche to volume, while securing traceability, integrity and consumers' trust (…) 5b) Develop strategies (…) for smaller producers 5c) (…) to facilitate better market coordination 5d) Knowledge exchange (…) regarding communication and marketing strategies for important target groups 5e) Development of models to forecast the evolution for national organic markets	2nd	HEALTHYGROWTH investigates successful mid-scale organic value chains in order to learn how they are able to combine volume and values
Environment		Climate change		
		Assessment of environmental performance		

Table A 2: Important research topics and future directions from <u>national</u> perspective of the CORE Organic partner countries (updated 2012)

Country	Description
AT Austria	Animal husbandry: Reduce concentrates in dairy production Crop production: Plant Health/Biocontrol strategies/invasive pests/Plant breeding research for disease resistance Environment: Reducing emissions of Methane and Nitrogen
BE Belgium (Flanders)	Research priorities for OFF sector in Flanders (currently (2012) there is a revision of the research agenda and priorities ongoing in Flanders): Soil: sustainable and efficient nutrient management, effect of soil management on soil processes, soil fertility and crop development Crop production: Balanced and efficient ecosystems, crop protection, weed and pest control techniques, availability of organic seeds Animal husbandry: Organic feed, production systems, welfare and health, breeding and genetics, cooperation between farms Socio-economics: costs and benefits of OFF systems Product quality within the whole production chain

Country	Description
CH Switzerland	Important topics and intended direction of future development can be summarised as follows: Development and optimisation of agricultural production systems will remain the most important part of OFF research, but activities in this field will be reduced in the future. Research in food quality, safety and health as well as environmental issues and animal husbandry will be intensified in the future.
DE Germany	Since the beginning of the BÖLN approx 750 praxis oriented research and development projects have been funded. Besides the thematic foci along the value added chain, interdisciplinary research topics are included into the calls. The interdisciplinary research topics refer to the subject areas “Soil fertility and plant nutrition”, “Health and performance of organic husbandry of dairy cattle” and “Health and performance of organic husbandry of sows and piglets”. Since 2010 the program was extended on other forms of sustainable agriculture. This enables the BÖLN the funding of projects with a focus on organic and other forms of sustainable land management (for example to the topic “soybean”). But the funding of research and development projects in the organic sector is still an important part of the program.
DK Denmark	The three main themes are Growth, Integrity and Robust Systems. In the strategy from 2012 the overall focus areas are: 1. Existing organic production systems 2. New organic production systems 3. Different types of farms, organisation and cooperation 4. Microbial interactions in soil, plants, animals, fodder and food 5. Markets and business development 6. Animal and human health 7. Climate, energy and resource management 8. Nature and environment 9. The importance of organic production for society
EE Estonia	(…) In Estonia, organic land has expanded by eleven times since 2000, but processing and marketing has not kept up with this growth. The Estonian Organic Farming Action Plan 2007-2013 and the Estonian Rural Development Plan 2007-2013 will contribute to the expansion of the organic sector in Estonia. Today the direct research policy for OFF is missing, as the research sector dealing with projects related to OFF is very limited. Very little scientific research has been conducted in the organic arena in Estonia. The few studies that exist have been carried out by the Agricultural Research Centre, the Estonian University of Life Sciences, the Jõgeva Plant Breeding Institute and the Estonian Research Institute of Agriculture. These projects have mainly been funded through the national program “Applied Research and Development in Agriculture 2009-2014”.
ES Spain	- Crop protection in organic farming. Enhancing plant health through functional biodiversity - Breeding varieties for organic farming - Organic farming impact on the pollution reduction - Nutritional value from organic products - Organic production vs conventional production - The improvement of soil and nutrient management - Animal health: Sanitary management - Animal production systems - Food quality: prevention of fraud - Food quality: processing and techniques

Country	Description
FI Finland	There have been two research programs for organic food and farming, financed by the government. The scientific research on that field has been mainly targeted to the farm level operations such as soil management and environment and also for the economy of the organic food system. The multidisciplinary scientific research is developing now and other faculties such as behavioral, social, political and medical are getting interested on this global “phenomenon”, the Organic Food.
FR France	In the current research programs, the following topics are addressed: adapted cultivars and landraces; objectives and methods for plant breeding (…); integrated management of organic cropping systems; characteristics of organic inputs and fertilisation at crop rotation level; crop protection and animal disease prevention; feeding and raising monogastrics; product quality and sanitary issues along food chains; environmental impacts and assessment methods; transition pathways (multidimensional approach); consumption, food chains and markets; technico-economical references. Important intended topics are such as: designing low-inputs agricultural systems contributing to improve vegetal and animal health; role of microorganisms in nutrient cycling and agro-ecological services, impacts of agricultural practices on biodiversity; methods and tools to improve environmental and energy performances; production and yield stability, inputs autonomy and products’ quality; economic development: public policies and scenarios for conversion of farmers, regions, food-chains and value-chains.
IE Ireland	The priority areas for initial inclusion as stated in the Organic Farming Action Plan 2008-2012 include: - crops that will allow extension of the grazing system - winter feed – maintenance and production elements - Variety testing of organic cereals - Composting and soil development especially as phosphate and potash are limited sources and will in turn become more and more expensive
IT Italy	The identified research topics for the actual programme are: - organic seed production, legislation and local varieties exploitation and valorisation - aquaculture: new technologies and production strategies - organic animal production (slow growing and local races exploitation) - plant proteins as soybean substitutes, - organic wine production - improvement of horticultural production systems and weeds control methods - plant protection - development of agro-ecological indicators for quality and sustainability evaluation - sustainability of greenhouse organic productions

Country	Description
LT Lithuania	For the actual research programmes following topics suggested by Lithuanian scientists are important: Milk cow and cattle breeding meat nutrient values, functional and hygiene management in order to improve tinned feed characteristic inorganic farms; Milk cows growing – healthy and safe food guaranty; Comparable research on organic and conventional crop production and their impact on human health; Life-cycle analysis and environmental foot-printing. Developing appropriate methodology to ascertain the environmental, economic and social benefits of organic farming is needed; What forms of cooperation among stakeholders are likely to foster conversions and the adoption of ecologically-based practices (including transfer of knowledge and know-how, e.g. related with observations in fields and on animals…)? Which forms of support (market organization, extension services, knowledge engineering, public policies, etc) are likely to contribute to national development objectives and continuous development of organic farms (towards a higher consistency with organic principles and as counter-balancing the "conventionalization" thesis)?; Bio-energy production in OFF: Is it reasonable and how to do it? Optimizing production of food, feed and energy; Grain legumes: Agronomic and genetic improvement; What are the environmental effects of OFF? (Nutrient leaching, green house gases, carbon foot print and energy use); Optimizing the quality of fruits and vegetables in organic sector –How can we improve the quality of fruit and vegetables production in organic sector?
LU Luxembourg	Everything related to OFF in Luxembourg
LV Latvia	Actual research projects: Project "Development, Improvement and Implementation of Environmentally Friendly and Sustainable Crop Breeding Technologies", involved 3 institutions: State Priekuli Plant Breeding Institute (leading institution); State Stende Cereal Breeding Institute; University of Latvia, 2009-2012; 1723237 EUR, funding of EC (social funds) and national budget (institutions' finances); Project "Sustainable use of local agricultural resources for development of increased nutrition value food products (FOOD)". Subproject 3.3 "Production of high quality deer farming products under sustainable farming conditions", Research Institute of Biotechnology and Veterinary Medicine "Sigra"; 2010-2013; funded by Ministry Education and Science; 213718 EUR Project "Development of sustainable horticulture, using environment conserving integrated plant protection technologies, preserving nature resources and their biodiversity", Latvian Plant Protection Research Centre Ltd, 2012-2014; 23817 EUR Project "Agrarian Sector Entrepreneurship and Food Consumption in the Context of Latvia's Sustainable Development, Society Welfare and Framework of the European Union"', one task of project – development issues of organic farming and local food in Latvia, 2010-2012, funded by Latvian Scientific Council; 15000 EUR Future directions: Research on plant ability to use efficiently the soil nutrients under organic growing conditions Development of molecular tools for detection of essential plant traits for organic farming (resistance to diseases, traits related to competitive ability with weeds and nutrient use efficiency and adaptability) Research on biologically active compounds: possibilities to increase them by breeding under organic growing conditions Use of elaborated breeding technologies for practical breeding (currently no financing for it) Improvement of genetic potential of animal breeds, breeding, welfare (incl. health aspects) and feeding of animals for organic farming

Country	Description
NL Netherlands	The current emphasis in the Netherlands are on the “topsectors” on one side: where industry (including farming), research and government institutions together develop the various named sectors. Two of those topsectors are Agri&Food and Horticulture&Propagating materials. On the other side: the government itself focuses on policy-research that is closely related to policy-problems and things we have to do from a legal point of view. There is no specific focus on OFF
NO Norway	An evaluation of the organic research financed by the Research Council for the period 1999-2009 was carried out in 2010. Some of the main conclusions, also related to research needs were: More focus on the industry / market / consumer-related part of the value chain. Research on OFF and conventional agriculture is close related and transmittable Research institutions are advised to closer cooperation, to ensure critical mass and robustness. Importance attached to Holistic system approach. Strengthen the international research collaboration including the Nordic collaboration. Studies needed on effects on production and consumption of ecological food on the environment, including climate conditions. Life cycle analyses – LCA, an important part of research on sustain-able production, distribution and consumption of food. Research for development of new products and processes – free from contraries and contamination.
SE Sweden	
SI Slovenia	The following projects have been implemented: - Economics of organic farming in Slovenia - Environmental footprint of agriculture and food processing industry and technological measures for its lowering in the future - Long-life e-learning in organic farming - Development, optimization and implementation of technologies for sustainable control of plant pests - Developing a system to support the decision-making on organic farms - Utilisation of grassland for the conservation of diversity, - Organic farming and provision of permanent and quality forage products - Alternative pig rearing – organic farming - Developing a new fruit production system interlinking the principles of integrated and org. production - Intercropping – alternative for reducing input for vegetable and field crop production, - Analysis of situation and potentials for growth of supply of organic products (…) in Slovenia - Fruit growing technologies for fruit "with no pesticide residuals" - Development, optimization and implementation of technologies for sustainable control of plant pests Direction of further development: - Policy research (especially to support the implementation of the national Organic Action Plan) - Plant production – specific issues in different areas (with emphasis for vegetables) - Animal production – specific issues (goat, sheep)- Socioeconomics (short supply chains), sociology (knowledge transfer, knowledge sharing)

Country	Description
TR Turkey	Important topics for the actual research programmes are as follows: - Development of organic plant protection materials from local resources - Development of organic fertilizer and soil conditioners from local resources - Organic propagation materials production techniques and technologies - Optimising the organic animal production - The potential usefulness of rare animal races in organic production - Organic medicinal and aromatic plants production - Organic market development/ consumer promotion - Organic feed production from local resources - Organic production of non-food plants - Socio-economic aspects of organic food and farming Intended direction of future development: As Turkey is heavily dependent on imported inputs in organic farming; we intend to give speed on development of input production technologies from local resources of Turkey. Additionally, the new dimension of Turkey's organic research program would be on the effects of organic movements on the resilient use of natural resources and the prevention of environmental pollution, and impact assessment.
UK United Kingdom	Key objectives include: - information on agronomic performance and profitability of the main types of organic farm system - evaluation of the impact of organic farming on the environment - improved techniques to overcome main constraints during and after the conversion process - underpinning development of organic standards and future policy - develop organic techniques that mitigate against impacts of climate change - assess impacts of organic herbicides on flora and fauna

Table A 3: Research gaps: Prioritization for different thematic research areas from national perspective (updated 2012).

Source: Survey 2012

Partners were asked to prioritise all thematic research areas as follows: - = not relevant, 0 = not important, + = partially important, ++ = important, +++ = very important.

Country	Farming systems	Animal husbandry (incl. health and welfare)	Crop production (incl. crop protection)	Soil	Food quality, health, processing	Values, standards & certification	Environment (incl. climate)	Knowledge management	Socio-economics (incl. agro-policy, market)
UK	++	++	+	+++	+	+	+++	+	+
NL	-	++	++	-	++	-	-	-	++
IT	++	++	++	+	+	+++	++	+	++
CH	+	++	++	+	++	+	++	+	+
DK	+++	++	+++	++	++	+	+++	++	++
LU	+++	+	++	++	++	-	++	+	++
IE	+	+++	++	+	+	-	++	++	+
ES	++	+++	+++	+	+++	++	+	+	+
LT	0	++	++	0	++	0	0	+	++
FI	++	+++	+++	++	+	-	++	+	++
LV	++	++	+++	++	++	+	++	++	++
DE	+	++	++	+ (+)	+	+	+	+	+
NO	++	++	++	+	++	+	++	+	++
SI	++	+++	+++	++	+++	++	++	++	+++
BE	+++	+++	+++	+++	+++	0	0	++	++
FR	++	+	+	0	++	+	++	++	++
EE	+	++	++	++	++	0	++	++	+
TR	++	+++	+++	++	++	++	+++	++	+++
AT	+	++	+++	++	++	+	++	+	++
SE									

Table A 4: Overview on action plans, specific research programs and motivation to support OFF research in CORE Organic partner countries (updated 2012)

Country	Action plan for OFF available	Research program for OFF available	Motivation to support OFF research*	Available funds for OFF research (€/y) (Optional)	Remarks**
AT	yes	no	-		
BE (Fl)	yes	yes	M		Call for Organic food and farming Research: in 2012 0.16 Mio € for projects of 3 years
CH	no	no	M/E		
DE	yes	yes	M/E	8,875 Mio €/y	Federal scheme for organic farming and other forms of sustainable agriculture (BÖLN)
DK	yes	yes	M/E/S	4.1 Mio €/y	Research program Organic RDD from 2011-2014. A new programme is being developed. The funds are not known yet.
EE	yes	no	yes	yes	
ES	no	no	-		Motivation for research related to transnational collaboration
FI	yes	no	S/M/E		
FR	yes	yes	M	4.3 Mio €/y	CASDAR, INRA, ANR
IE	yes	no	M		
IT	yes	yes	M/E/S		two-year research program on seeds for OF
LT	yes	yes	E/M/S		Sub-program OF and environment
LU	planned		E/M/S		Agro-systems domain with the national research programme CORE
LV	no	no	M		
NL	not anymore	integrated in the regular research	not very high		OFF research program until 2011 Organic contributes to stronger connections to public
NO	yes	no	M		Earmarked funds through CO II
SE					
SI	yes	no	S		
TR	yes	yes	S/M/E		There is no important change in the concept of OFF research program
UK	yes	yes	M/E	1.33 Mio €/y	OFF sub-program

* E: Environment, M: Market, S: Sector development;

** Important changes should be explained under “remarks”

Table A 5: Current status of research on OFF in CORE Organic II partner countries (updated 2012)

Country	Description
AT Austria	Austria has a political action plan supporting organic farming www.lebensministerium.at (…) The "Programm für Forschung und Entwicklung im Lebensministerium" PFEIL 10 supports research in OFF. Research organisations (universities), research institutions belonging to the Ministry and private research organisations, the Ministerial organisations and other stakeholder are involved in the finding of research needs. Yearly meetings in cooperation with the presentation of project results allow intensive discussions on research topics. www.dafne.at and PFEIL 10 Future development is based on improving transnational cooperation.
BE Belgium (Flanders)	In 2008 a "Strategic Plan for Organic Farming 2008 – 2012" was developed as the result of cooperation between policymakers, researchers and farming organisations from both organic and conventional sectors. This plan is currently (2012) evaluated within the scope of a next strategic plan (2013-2018). To support OFF research and knowledge dissemination an OFF network consisting of three knowledge platforms is developed in Flanders. (i) The "Netwerk voor Onderzoek Biologische Landbouw & voeding " (network for organic food and farming research, NOBL, started in 2008) and is responsible for bringing together different stakeholders (researchers, organic sector and policy-makers) who aim at strengthening agricultural research and knowledge circulation in favor of the OFF sector. The network gives among other advice on research prioritization and developed a research agenda for OFF together with the government ("Research Agenda for Organic Agriculture 2008 – 2012", currently updated for the period 2013 - 2018). (ii) The "Biobedrijfsnetwerken" (Organic farmers' knowledge networks, BBN, started in 2009), which is responsible for the identification of research needs at farm level and is playing an important role in the dissemination of research results to farmers. The BBN become more and more partners in participative research projects. (iii) The "Coördinatiecentrum voor praktijkgericht onderzoek en voorlichting Biologische Teelt (coordination centre for experimental research and advice in organic farming, CCTB, started in 2010), which is responsible for the coordination of experimental research and dissemination of knowledge to the OFF sector at different research stations in Flanders. These networks as well as research projects in the OFF sector are financially supported by the Department of Agriculture and Fisheries of the Flemish government from the budget of the Sustainable Agricultural Development Division (ADLO). For further financial support OFF researchers need to compete within general research funding programs for agricultural research on national and international level
CH Switzerland	Research in OFF is included under the national research programme and carried out mainly by the private research institute FiBL and the national research station Agroscope. In addition, the are two private research institutes, the Agricultural Department of the Goetheanum and the Cereal Breeding group of Peter Kunz, both specialised in biodynamic research.

Country	Description
DE Germany	The Federal Scheme for Organic Farming and other forms of sustainable agriculture (BÖLN) aims to improve the general conditions for organic and other forms of sustainable agriculture and the corresponding food sector in Germany as well as to establish the pre-requisites for an equally weighted growth of supply and demand. The programme is financed by the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) and coordinated and implemented by the BÖLN Agency within the Federal Office for Agriculture and Food (BLE). At the end of 2001, the programme started as Federal Organic Scheme (BÖL). It was based on a weak point analysis and recommendations resulting thereof. The input was made by a group of external experts and representatives of the German organic farmers' associations. The experts' opinion from science, economy and administration has also been integrated into the concept of the programme. At the beginning, the measures of the Federal Scheme mainly focused on information and education in order to sensitize farmers, processors, salesmen and scientists in equal measure to organic farming. For due to the opinion of the Federal Government the development of the organic sector at that time strongly depended on the on the commitment and the decisions of the single stakeholders in the market. In between, the focus of the Federal Scheme shifted to the funding of research projects. Due to a Decision of the German Bundestag of 26. November 2010, the Federal Scheme has been extended by other forms of sustainable agriculture. Correspondingly, the Information Management area was complemented by measures for sustainable agriculture. Additionally, a Funding Directive has been prepared, allowing from July 2011 on, research and development projects as well as measures with respect to technology and knowledge transfer for a sustainable production, processing and marketing of agricultural products to be funded.
DK Denmark	The International Centre for Research in Organic Food Systems (ICROFS) is fund manager of the Danish research programme on organic agriculture and food systems, Organic RDD, running from 2011 to 2013 and consists of 11 research projects and a budget of 13.4 million euro (source: http://www.icrofs.org/Research/organicrdd). The continuation, Organic RDD 2, has a budget of 12 million euro for project running from 2014 to 2017.
EE Estonia	(…) In Estonia, organic land has expanded by eleven times since 2000, but processing and marketing has not kept up with this growth. The Estonian Organic Farming Action Plan 2007-2013 and the Estonian Rural Development Plan 2007-2013 will contribute to the expansion of the organic sector in Estonia. Today the direct research policy for OFF is missing, as the research sector dealing with projects related to OFF is very limited. Very little scientific research has been conducted in the organic arena in Estonia. The few studies that exist have been carried out by the Agricultural Research Centre, the Estonian University of Life Sciences, the Jõgeva Plant Breeding Institute and the Estonian Research Institute of Agriculture. These projects have mainly been funded through the national program “Applied Research and Development in Agriculture 2009-2014”.
ES Spain	Organic farming research in Spain is carried out largely by University, and National or Regional Research Institutes. A new Centre of Organic Food and Farming Research (CAEM) is working in OFF projects, looking for the creation, recovery and transfer of the technologies destined for the ecological production. Spanish organic research projects are integrated in a more general scheme (Agro-Food programme). There is not a specific research program on organic farming. The agricultural research system in Spain managed by the Directorate General for Scientific Research and the National Institute for Agricultural and Food Scientific Research and Technology (INIA) both depending of the Ministry of Economy and Competitiveness.

Country	Description
FI Finland	The Finnish organic food system is developing, but still slower than in many other fellow-European countries. In 2012 the share of organic cultivated land was 9 % and the share of markets was 1,6 % equal to 200 million Euros (23 % increase from 2011). The organic food has been among the Finnish Government official programs since 1999. The Finnish Government has set a goal of 20 % for the share of organic agricultural land for the year 2020 and made a Government program to support that decision. Among the actions is the need for more food system-based scientific research. There are also several weak points to work with among the stake holders and the authorities of the Finnish organic food system. OFF is included in several research areas: it is integrated as a part in agri-food research questions. The main institutes carrying research on OFF are MTT Agrifood Research Finland and University of Helsinki which founded the Finnish Organic Research Institute: it started in January 2013 and is fast building a network among the Finnish research scientists as well as getting "signals" from the food chain stakeholders for the most needed research subjects. The Institute is not doing the research itself, but inviting research scientists, food system stakeholders and the financing instruments around the same table. There may be a couple of single project at other universities. A national organic research agenda is under planning and it will give guidelines for prioritized agricultural, environmental, food related and communal research for years 2013-2017. The dissemination of the results from the scientific research will be forwarded into different levels as well as different target groups. The Institute organizes seminars for the scientists and will use the network built also for dissemination. The food chain stakeholders will get targeted information for theirs special field as well as possibilities to attend for scientific seminars. Consumers will get more popularized information through the media as well as from the Internet pages (www.luomu.fi).
FR France	The French Ministry of food, agriculture and fisheries has launched an ambitious programme in 2007, aiming to reach 6% of UAA in organic by 2012 (instead of 2% today); such up-scaling entails new perspectives in terms of innovation, taking into account the diversity of OFF patterns. Today, organic products represent only 1.2% of the total French food market, but they increase by 10% per year. OFF economic development must be organised accordingly, matching supply and demand with new options (public procurement, alternative marketing channels, etc). OFF performances are increasingly at stake, namely concerning public goods, environmental services and impacts, production stability and quality. It is therefore relevant to address environmental, food and health issues. In this national plan, the need for knowledge production is recognized, and supported by stronger relationships among research, training and development. Three documents were recently issued. One is about an assessment of the 40 projects carried out and supported by Inra and Technical Institutes during the past 10 years (Bellon et al., 2011. "Promoting research on organic farming within a research institute: lessons learned from an interdisciplinary collective from INRA" Presented during the last conference from SFER (French Society of Rural Economy) on "Transversalities in Organic Farming" (June 2011, Strasbourg). The second one is a mapping of organic research projects carried on in France or involving French partners, done within the frame of RMT DévAB (http://www.devab.org/moodle/pluginfile.php/624/mod_resource/content/0/DevAB_25_mars_cartographie_vf.pdf). The third one is a leaflet presented during the International Agricultural Fair in Paris (march 2012), presented the Inra's commitment in organic research (Penvern et al., 2012)
IE Ireland	The current economic climate has seen significant changes in the research conducted at Teagasc. Unfortunately, Organic Agriculture is one of the areas significantly affected. The focus of the Teagasc organic programme is moving to knowledge transfer and dissemination. This work is supported by the grant in aid funding from the Department of Agriculture, Food and the Marine (DAFMF). In addition, DAFM fund a project on "Productivity of clover-based grassland under organic management and nitrate losses to ground water". (…) Other work has been supported in various Universities and Institutes on production and on food.

Country	Description
IT Italy	Organic farming has been considered by the governments (national and regional) of the last decade one of the excellences of the Italian agro-food sector because it allows to combine entrepreneurial-production aspects with society demands and environment management issues, representing a strong opportunity to create new jobs and to make available natural food products to consumers, for which demand is constantly increasing. As a consequence, the ministerial decree 92024 of 21/12/2005 has approved the National Action Plan for the OFF (PAN) and the related Action Programme (updated every year). Research in OFF, mainly carried out by universities and public research institutions, sometimes in cooperation with farmers, is mainly financed by the Ministry of agriculture, food and forestry policies (MIPAAF). In addition, the Ministry of education, university and research (MIUR) and the Regions are also involved in funding this sector. OFF actors (researchers and stakeholders), feeling the necessity to reinforce their collaboration, have created in 2008 the Italian Network for the Research in Organic Farming (RIRAB), and in 2010 the Italian Technology Platform on Organic Food and Farming (PTBio Italia), in support to the European Technology Platform "Organics".
LT Lithuania	As the EU Member State, Lithuania has undertaken its commitment to contribute to the implementation of the Lisbon strategy to create knowledge based bio economy. (…) Being in charge of making agricultural policy, the Ministry of Agriculture has established important priorities to support development of clean technologies and their practical application focusing on sustainable organic farming. As the funder, the Ministry has committed to provide funding to research in the organic food and farming systems through its research and development programme for 2007-2013. (…) Organic farming becomes one of the most popular environmental measures getting significant support aid from organic farming scheme. It contributes to solving out the present situation in organic farming sector, which is characterized as of relatively small scale and fragmented, limited to domestic market and requesting the establishment of modern processing technologies and investments into human capital to increase its productivity.
LU Luxembourg	An Action Plan for the Government for OFF has been established. The National Research Fund (FNR) organised a foresight exercise in 2006-7 which analyzed potential research priorities for Luxembourg. The government adopted these six research priorities. OFF is part of one of these priorities. The FNR implements funding support to these priorities in the public sector.
LV Latvia	Research institutions are involved in different kind of research projects
NL Netherlands	As of 2012, there is no specific research programme on OFF. OFF topics are part of the regular research programmes
NO Norway	The Research Council of Norway (RCN) supported research in OFF as a part of the Food Programme, and also partly in The Research Programme on Nature-based Industry. A strategy for prioritise OFF was available in 2005. (…) From 2012 the two mentioned programmes merged into one; Research Programme on Sustainable Innovation in Food and Bio-based Industries BIONÆR/BIONAER. The Agricultural Agreement Research Fund (AA-funding) and the Foundation for Research Levy on Agricultural Products (Levy funding) are also main bodies for finance the OFF research. This funding is diverted through the RCN. The research in OFF is carried out both by universities and research institutions. The main topics are animal husbandry, crop production, food quality and socioeconomics. The research on OFF 1999-2009 was evaluated in 2010, (the report only in Norwegian). Link: http://www.forskningsradet.no/servlet/Satellite?c=Nyhet&pagename=matprogrammet%2FHovedsidemal&cid=1253954636084&p=1222932060309

Country	Description
SI Slovenia	Slovenia has adopted an action plan for organic farming, which foresees an increase in organic production and support for research. The research is aimed at supporting the development of organic farming in Slovenia in different areas of food production and processing, protection of natural resources and climate change. The topics are set out in the process of drawing up the target research projects, which has pre-determined proceedings for collecting proposals. These come from researchers, interest groups and administration. The proposed topics for tendering are evaluated in the light of common strategic goals. The proceedings are carried out by a section at the Ministry in charge of research in agriculture. With the guidelines within the Action plan of development of organic farming in Slovenia, the organic farming has gained in its importance, which is reflected in the higher support for research projects in this domain. Support for research projects in the field of organic farming have grown over the years. In our estimation, the means in greater extent (half) are given for research, covering technology for organic farming and comparisons of technology, in the strong relation with the environment. The rest of the funds are attributed to the contents related to the processing of organic products and organic products marketing, economics and management on organic farms. Regarding the long-term orientation of agricultural production, we estimate that organic production will gain in its importance.
SE Sweden	
TR Turkey	Organic agriculture is among the high priority areas in 2006-2012 Agriculture Strategy of the Ministry of Food, Agriculture and Livestock of Turkey. The Ministry has a strategic agenda in which increasing the organic farming area from now existing slightly over 1 percent to 10 percent in 5 years has been targeted. To achieve this goal, General Directorate of Agricultural Research and Policy (GDAR) has its own mandate to fund and manage high quality, relevant basic and applied research and disseminate results to target groups.
UK United Kingdom	The organic sector is now firmly established in the UK with many consumers relying on the assurance of high standards and the good welfare provided by the purchase of organic products. Defra is of the view that organic farming is one of the pioneering approaches to sustainable food production and remains influential; it is clear from research that the organic system provides a valuable whole farm approach to encouraging environmental benefits. The Government supports organic food production funding under Organic Entry Level Stewardship in recognition of the public goods that it delivers. Defra's organic R&D is funded as a sub-programme of the Sustainable Farming Systems and Biodiversity R&D Programme. Research is funded through commissioned work, open competition and collaborative LINK research with industry.

Table A 6: Process of identifying research gaps in Core Organic II partner countries (updated 2012)

Country	Process of identifying research gaps
AT Austria	Research providers and other stakeholder are involved. Annual meetings with discussion of results and new research topics
BE Belgium (Flanders)	Research needs are set out in a Research agenda for OFF 2008-2012. The "Netwerk Onderzoek Biologische Landbouw & voeding" (NOBL, network for organic food and farming research) and the "Coordinatiecentrum voor praktijkgericht onderzoek en voorlichting Biologische Teelt" (CCBT, centre for experimental research and advice in organic farming, CCBT) are working together for indentifying research gaps and for putting the agenda into practice.
CH Switzerland	The research priorities are set for a four-year period within Agroscope and FiBL Continuous contacts with stakeholders ensure the involvement of researchers, farmers, advisory services, and consumers. At Agroscope, research portfolios are regularly analysed by accompanying expert groups.
DE Germany	Before "Calls" are published, a hearing of representatives from research institutions, administrations, associations and advisory boards is carried out. After this, research projects are selected by experts. The approval is based on an official directive.
DK Denmark	Two-step: Future development possibilities with list of research areas are identified through a procedure involving stakeholders and researchers. The transdisciplinary programme committee of ICROFS prioritizes the topics, and makes a recommendation for adoption by a board under the green growth plan of the Danish Ministry of Food, Agriculture and Fisheries.
EE Estonia	Two-steps: Collecting topics from research provider and user. Approve list of priorities and launch call.
ES Spain	A national organic farming research network (AGRIECOL) is working for improving the coordination between researchers and organic companies and associations to identify and coordinate research groups interested in organic farming and to define research priorities by annual meetings and web.
FI Finland	The research topics on agri-food sector are identified by using an advisory body and by round table discussions with different stakeholders. On OFF we have created an e-mail list for different stakeholders (…) and through this group we can gather relevant research topics and areas.
FR France	Identification of topics by conference, stakeholder consultation, integration in international scientific communities and specific position paper with priorities defined by the Scientific Council of Organic Agriculture (CSAB), appointed by the French Ministry of Agriculture (web link to this document: http://agriculture.gouv.fr/IMG/pdf/V2TAP2Meynard27a40.pdf)
IE Ireland	Stakeholder consultations are held for the public good programmes. The work programme is developed in consultation with the relevant expertise and policy makers in DAFF. In addition, we would monitor developments on the Organic Technology Platform, and the Organic Farming Action Plan 2008-2012 sets out key areas of research priority.
IT Italy	Identification has been pursued by consultation of stakeholders represented in the Consultative Committee on organic farming, the TP Organic Italian representative (PT Bio) and the State-Regions Conference.
LT Lithuania	The process of identifying research topics starts with requesting the social partners to provide topics, followed by an evaluation within special expert groups. After that, the relevant topics go for evaluation and approval to the Committee of the Ministry of Agriculture of execution and administration projects, financed from international financial support and general financing or state budget, and the process ends with the decree of the Minister.

Country	Process of identifying research gaps
LU Luxembourg	OFF research is part of a foresight exercise on national research priorities. The FNR implements funding support to these priorities. Lately no updates of the research gaps have been done.
LV Latvia	The research topics were identified and clustered by research institutions and researchers, projects are financed by European Commission, Ministry of Agriculture and Ministry of Education and Science and Latvian Scientific Council.
NL Netherlands	System of Bioconnect: The organic sector has written an ambition- and innovation agenda. Producers and other connect partners (e.g. a dairy company) discuss together what type of research is needed to fill in these ambitions. They advise the Ministry on the actual research programmes.
NO Norway	A strategy to prioritize OFF was available in 2005. In addition there have been consultations with stakeholders on a broad scale, as a part of the priority process. An evaluation of the organic research financed by the Research Council for the period 1999-2009 was carried out in 2010 (see later in the document).
SE Sweden	
Slovenia	Proposals come from researchers, interest groups and administration and are evaluated in the light of common strategic goals. The procedure is carried out by a section at the Ministry.
TR Turkey	The process of identifying research topics at the Stakeholders Conference is using a priority setting method called Scoring. Priorities are regularly revised in intervals of five years. In addition, analysing the organic food sector and the market by the researchers.
UK United Kingdom	R&D priority areas are considered annually by the Sustainable Farming Systems Programm Management Group. Organic R&D is also informed by stakeholder engagement and an expert R&D sub-committee of the Advisory Committee on Organic Standards.

Table A 7: List of links to organic research activities in COII partner countries

Country	Link to organic research activities
AT Austria	List of institutions carrying out research on OFF at http://www.organic-world.net/austria.html#c2097 List of projects on OFF at the research database of the Lebensministerium: www.dafne.at
BE Belgium (Flanders)	Current and past research projects are listed at http://www.nobl.be (in Dutch, English) and http://www.ccbt.be (in Dutch)
CH Switzerland	Organic research projects of Agroscope: http://www.aramis.admin.ch/ Agroscope ART: http://www.agroscope.admin.ch/systemes-cultures/02455/02463/02465/index.html?lang=en
	Research projects of FiBL Switzerland: http://www.fibl.org/fileadmin/documents/en/activity-report/ar08-switzerland.pdf (research cluster, p. 54-60) will be updated soon
	Projects of Cereal Breeding Peter Kunz http://www.getreidezuechtung.ch/index.php?article_id=418
	Projects of the Agricultural Department of the http://www.sektion-landwirtschaft.org/3336.html?&L=1 (German)
DE Germany	Link to research projects within the Federal scheme for organic farming and other forms of sustainable agriculture (BÖLN): http://orgprints.org/view/projects/BOEL.html (English)
	www.oekolandbau.de (German)
	www.bundesprogramm.de (German)
DK Denmark	List of projects within Organic RDD: New market perspectives using herbs and berries in organic meat production (BERRYMEAT)
	Superb and Marketable Meat from Efficient and Robust Animals (SUMMER)
	Danish Fruit and berries: Novel Organic solutions securing future growth (FruitGrowth)
	Roots and Compost – organic crop production under reduced nutrient availability (RoCo)
	Multicriteria assessment and communication of effects of organic food systems (MULTI-TRUST)
	Ecosystem Functions and Services of Biodiversity in Grasslands (EcoServe)
	Higher Productivity in Danish arable crop production (HighCrop)
	Organic pig production 2014 – without castration (NO-CAST)
	PARasites in Organic Livestock: innovative solutions to new challenges (PAROL)
	Integrated larvae production for feed in organic egg production (BIOCONVAL)
	Influence of probiotics and feed on organic rainbow trout health (OPTIFISH)
EE Estonia	http://www.emu.ee/371990 (in Estonian, project summaries in English) http://www.pikk.ee/uutteaduselt/rakendusuuringud/ (Estonian and project summaries are in English) http://www.sordiaretus.ee/?pid=57&leftMenuItem=57&pageHeader=Reports (English) http://www.eria.ee/index.php?page=125& (English)
	http://www.sordiaretus.ee/?pid=57&leftMenuItem=57&pageHeader=Reports (English) http://www.eria.ee/index.php?page=125& (English) http://polli.emu.ee/index.php?sub=researchinfo (English) http://ar.va.ttu.ee/v/v/p/teadus_1.web.pandmed?PROJE=18157 (Estonian)
ES Spain	www.agriecol.org (Spanish)

Country	Link to organic research activities
FI Finland	No link indicated
FR France	The Scentific Council of Organic Agriculture identified recently 8 research and development priorities See http://agriculture.gouv.fr/IMG/pdf/V2TAP2Meynard27a40.pdf
	Link to RMT DévAB: www.devab.org (french). It includes an overview of national funded projects (http://www.devab.org/moodle/course/view.php?id=44)
	Link to the Network of technical institutes for animal and vegetal productions: www.acta.asso.fr (french) including http://www.itab.asso.fr/ www.inra.fr and www.inra.fr/comite_agriculture_biologique (list of projects and results)
	http://www1.montpellier.inra.fr/dinabio/ (proceedings of conference 2008, aiming at the assessment of past projects and definition of topics for future programmes)
IE Ireland	Link to research projects of Teagasc: www.teagasc.ie www.agriculture.gov.ie/research
IT Italy	Link to SINAB: http://www.sinab.it/index.php?mod=ricerca_sperimentazione&m2id=192&navId=192 (Italian)
	Link to Reterurale: http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/5838 Link to CoreOrganic2: http://www.coreorganic2.org/Upload/CoreOrganic2/Document/Italian_organic_breeding_plan.pdf
LT Lithuania	The results of the projects under the programme "Organic Farming and Environment" can be found on the website of the Ministry of Agriculture of Lithuania, the programme owner (Lithuanian): http://www.zum.lt/index.php?1689393122 Also information about projects and results of the projects is published in the LT project's participant's websites: Lithuanian Agrarian Economics Institute website is: http://www.laei.lt/?mt=tarptautiniai_projektai
LU Luxembourg	EVA department of CRP Gabriel Lippmann: http://www.lippmann.lu/index.php?id=289&L=2
	ASTA (Agriculture Administration, German): http://www.asta.etat.lu/astahome.html
LV Latvia	http://www.priekuliselekcija.lv/?id=b1
NL Netherlands	Current research project in organic agriculture (documents in Dutch, with English abstracts) http://www.kennisonline.wur.nl/BO/BO-04/beschrijving.htm there are some specific organic research projects, but not many. They are mentioned on http://www.kennisonline.wur.nl/Eleni/BO however, there doesn't seem to be an English version
	Link to the published research results (Dutch) www.biokennis.nl
	Link to the central website of the network that organises the research questions (Dutch) www.bioconnect.nl
	Link to Wageningen University carrying out most of the research on organic farming: (Dutch and English) www.wur.nl
	Link to the Louis Bolk Institute carrying out research on organic farming, often in co-operation with Wageningen, but also as an independent organisation. (Dutch and English)
	www.louisbolk.nl
	Link to the general site on organic farming in the Netherlands (especially aiming at commercial parties) (English) www.organicholland.nl http://www.bionext.nl/content/about-bionext

Country	Link to organic research activities
NO Norway	Link to research projects of Bioforsk: www.bioforsk.no http://www.bioforsk.no/ikbViewer/page/tjenester/prosjekter?p_dimension_id=15705&p_operation=New (total portfolio in Norwegian)
	Link to research projects of University of Life Sciences: www.umb.no http://www.umb.no/iha/artikkel/forskningsprosjekter-ved-iha (portfolio Dept of Animal and Aquaculture Science in Norwegian)
	The Research Council, The Food Programme: http://www.forskningsradet.no/servlet/Satellite?c=Page&cid=1222932060304&pagename=matprogrammet%2FHovedsidemal (the total project portfolio, partly in Norwegian and partly in English)
	The Research Council, The Programme on Nature-based Industry: http://www.forskningsradet.no/servlet/Satellite?c=Page&cid=1222932066582&pagename=naturognaering%2FHovedsidemal (the total portfolio, partly in Norwegian and partly in English) The Research Council, Sustainable Innovation in Food and Bio-based Industries (BIONAER) (new - 2012). http://www.forskningsradet.no/prognett-bionaer/Home_page/1253971968569 (project portfolio not yet available)
SE Sweden	
SI Slovenia	No link indicated
TR Turkey	www.tagem.gov.tr (Turkish), Overall project list http://www.tagem.gov.tr/index.php?option=com_content&view=article&id=72&Itemid=112&lang=tr
UK United Kingdom	Link to CORE Organic Defra-UK Country Report: http://orgprints.org/8771/ (in: Lange et al. 2006, English)

6 Data sources/contact

Table A 8: List of contact persons

Country	Contact person/Email/Phone	Institution	Date of last update
Austria	Elfriede Fuhrmann +43-1-71100/6817 elfriede.fuhrmann@lebensministerium.at	Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW)	30.12.2009
Czech Republic	Ladislav Jerabek +420221812252 ladislav.jerabek@mze.cz	Ministry of Agriculture (NAAR)	30.12.2009
Denmark	Niels Halberg +45 8715 8037 niels.halberg@icrofs.org	International Centre for Research on Organic Food Systems (ICROFS)	01.07.2013
Estonia	Külli Kaare +3726256554 kylli.kaare@agri.ee	Ministry of Agriculture Republic of Estonia (PMin)	-
Finland	Suvi Ryynänen +385 9 160 52385 suvi.ryynanen@mmm.fi	Ministry of Agriculture and Forestry (MMM)	10.11. 2009
Belgium (Flanders)	Małgorzata Verleyen Szulc & Lieve De Cock +32(0)2 552 79 71 and +32 9 272 23 52 malgorzata.szulc@lv.vlaanderen.be lieve.decock@ilvo.vlaanderen.be	Department of Agriculture and Fisheries & Own Capital of the Institute for Agricultural and Fisheries Research	6.11.2009
France	Valérie Dehaudt & Stéphane Bellon +33 1 49 55 48 03 & 33.4.3272.2583 valerie.dehaudt@agriculture.gouv.fr stephane.bellon@avignon.inra.fr	French Ministry of Agriculture and Fisheries (MAAF) & French National Institute for Agricultural Research (INRA)	23.10.2009
Germany	Katerina Kotzia + 49 (0) 228-6845-32902 katerina.kotzia@ble.de	Federal Agency for Agriculture and Food (BLE)	9.11.2009
Ireland	Dale Crammond +353-1-607-2302 Dale.Crammond@agriculture.gov.ie	Department of Agriculture, Fisheries and Food (DAFF)	16.2.2010
Italy	Serenella Puliga +39 0552491248 s.puliga@mpaaf.gov.it	Ministry for agricultural, food and forestry policies (MIPAAF)	22.2.2010
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Norway	Siri Anzjøn +47 22037098 sia@forskningsradet.no	The Research Council of Norway (RCN)	30.11.2009
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Sweden	Susanne Johansson +46 8 775 40 20 susanne.johansson@formas.se	The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas)	21.12.2009
Switzerland	Urs Gantner +41 31 322 25 74 urs.gantner@blw.admin.ch	Federal Office for Agriculture (FOAG)	30.10.2009
Turkey	Şahin Anil +90 3123159787 sanil@tagem.gov.tr	Ministry of Food, Agriculture and Livestock, General Directorate of Agricultural Research and Policy (GDAR)	1.5.2013
United Kingdom	Dan McGonigle +44 (0) 207 238 1521 Daniel.mcgonigle@defra.gsi.gov.uk	Department for Environment, Food and Rural Affairs (Defra)	-