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**D 4.2a: Report on improved use of research facilities and topics relevant for integration, and training schemes**

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RE	Restricted to a group specified by the consortium (including the Commission	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Should the publication of corrigenda become necessary, these will be posted at the project website [www.coreorganic.org](http://www.coreorganic.org) .

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## Summary

This report describes the possibilities of different research facilities to fulfil the research needs established by the participating countries of the CORE Organic project. The report is based on information given in the WP4 report 'Analysis of facilities in OFF research in participating countries of CORE Organic', WP6 report 'Analysis of the CORE Organic ERANET partners' research strategies and needs in support of the identification of common research themes' and WP6 final report 'Identification and prioritisation of collaborative R&D', which all are available on the CORE Organic Intranet.

At present the most important research topics among the partners are within the categories Environmental aspects, Animal husbandry, and Values, standards and certification. Environmental aspects and Soil can be studied in 'Long-term experiments, including leaching fields' and Animal husbandry research can be carried out on-farm or in 'Animal research facilities', which are not available in all participating countries and thus the coordination of their use is very important. A good number of research needs, which are in the interest of several partners are found in Farming systems as well as in Food systems category (Food security, food quality and human health, Markets and trade, Policy environments and social economy, Produce chain management, Recycling, balancing and resource management). 'Research farms and experimental fields', 'On-farm research' and 'Permanent networks' can be used in primary production research in the context of the study of the food chain as a whole.

The objective of WP4 was to present a proposal concerning more effective and improved use of research facilities, and topics relevant for integration in joint research projects. At the moment facilities are being shut down in many countries, and more effective transnational use of the facilities could be an answer to the problems involved. It is suggested that the facility owners and researchers should be invited to discuss which facilities are the most important and should be maintained for transnational research projects. This requires money for travelling, which is why this kind of meeting or workshop should be a topic of the next joint action in the future coordination project.

The other aim of WP4 was to create a scheme for training of research personnel and exchange of experts to promote the exchange of experiences on how to conduct research by means of a systems and systemic approach. This was partly done by collecting information on the university-level education on OFF in the participating countries. This information is forwarded to two ongoing projects which deal with education in OFF. It is also suggested that the training scheme should be a topic (or part of it) of the next coordination action of OFF. It is also possible to include this kind of scheme in Marie Curie actions under FP7. As it is assumed that in the future more research is carried out on-farm and in networks instead of 'traditional' field experiments, research methodology is needed for teaching researchers as well as for research personnel. A common methodology for long-term experiment research is also needed.

## 1. Introduction

The objective of Work package 4 'Coordination of existing research and integration of knowledge' of the CORE Organic project was to ensure that all the well-known research areas of organic food and farming are coordinated so that there is a maximum exchange of research results and sharing of research facilities, including exchange of experts. This report describes the possibilities of different research facilities to fulfil the research needs established by the participating countries in the WP6 report. The report is based on information given in the WP4 report 'Analysis of facilities in OFF research in participating countries of CORE Organic', WP6 report 'Analysis of the CORE organic ERANET partners' research strategies and needs in support of the identification of common research themes' and WP6 final report 'Identification and prioritisation of collaborative R&D'.

This report compiles the information on the curricula and courses concerning OFF in universities to promote the exchange of information internationally.

## 2. Research facilities in participating countries

In the report 'Analysis of facilities in OFF research in participating countries of CORE Organic', research facilities were categorised according to the definitions listed below:

- **Research farms:** Farms, which have been certified as organic farms as well as herds, if any. Some data are collected regularly. A certain part of the farm may be under conventional farming, if a comparison with organic farming is made. These farms may belong to an institute or they may be private farms with research contracts.
- **Experimental fields:** Certain area or part of the fields of the research institute is under organic farming and OFF field experiments can be carried out there.
- **On-farm studies:** Research institutes carry out on-farm experiments with private farms. The cooperation is based on contracts between farms and institutes.
- **Networks:** A farm network is a group of farms where data are collected or similar experiments are carried out and information is disseminated among farmers, researchers and advisors.
- **Long-term experiments:** Experiments or studies are planned and set up with the main aim to carry out research activities, which require long-term monitoring and research efforts to get results. Facilities where experiments last for more than 5 years were considered with particular emphasis.
- **Leaching fields:** Experimental plots where drainage and/or surface runoff is collected and measured.
- **Animal research facilities:** Facilities for experiments in animal feeding, behaviour, etc.

Facilities for laboratory analyses and food processing, greenhouses, climate chambers and growth cabinets are excluded from this analysis, because they are seldom used exclusively for OFF research and because their use for OFF research does not require any particular characteristics. On the other hand, when required, these facilities can easily be converted to OFF research. Food quality issues and facilities devoted to this kind of research can be found in FQH –web pages of the International Research Association for Organic Food Quality and Health, <http://www.organicfqhresearch.org>.

All the facilities mentioned in the country reports were classified under research subject areas according to the research area in which they are used. The subject areas applied here were the same as listed in the Organic E-prints database ([www.orgprints.org](http://www.orgprints.org)). Many facilities fall within several subject areas.

**Research farms** (76 in total) can be found in almost all countries except for Italy and Norway, where a lot of research is carried out on experimental fields and as on-farm research. Most of the farms are used for research on animal and crop husbandry as well as on farming systems. A large number of **experimental fields** are listed for Sweden, Norway, Italy, Switzerland and Denmark. All experiments carried out in these facilities are focused on crop husbandry research. In almost all countries researchers and research bodies have contracts with farmers to carry out **on-farm research** and experiments on their farms. In most countries these contracts are not on a permanent basis. The number and type of farms depends on the actual projects. Most of the on-farm research is committed to animal husbandry and crop husbandry, but in some cases the studies concern the economic aspects, farm nutrient management and soil quality as well. In six countries more or less permanent **networks** have been established among farms; and in six of the countries (Sweden, UK, Netherlands, France, Switzerland and Germany) also between research institutes and farms.

**Long-term experiments (LTE)** have been established in all countries, except for the Netherlands, where some years ago research projects were organised under three- or four-year programmes. The most common topics in these trials are: farm nutrient management, crop combinations and interactions, and soil quality. Nutrient leaching, composting and manuring, and food quality are studied, too. In some cases, data for economic analysis are collected or calculated. **Leaching fields** for nutrient leaching research have been established only in the Nordic countries. Nevertheless, it is likely that, based on the various soil properties and climate characteristics, methods other than leaching fields are also utilised in environmental studies. All experiments concentrate on different crop rotations and production systems as well as different management techniques and fertilization.

There are **animal research facilities** in 8 countries and they are mainly used for dairy cattle research. There are sheep and beef cattle research facilities in Norway, Sweden and UK, but there are only a few facilities for poultry and pig production research.

### 3. Research topics for transnational research

Research needs common to several partners were identified from the partners' strategies in the WP6 report 'Analysis of the CORE Organic ERANET partners' research strategies and needs in support of the identification of common research themes'. The topics cover a wide range of themes and areas and the potential themes for transnational research are listed below.

Based on the partners' input to the research prioritisation for the WP6 final report 'Identification and prioritisation of collaborative R&D', eleven topics have been identified as the highest priorities for research in organic food and farming, and another 12 topics were identified with the highest scores by three or more partners. These topics are written in *italics* under the different research themes.

### **3.1 Farming systems**

Several of the research needs within this theme cut across other themes, such as crop and animal production, as well as environment and resources. A great deal could be learnt from the experiences of the partners to a transnational project, but national programmes would probably still need to invest in the translation of such transnational research into usable outputs. There is a common need for the development of organic systems, such as stockless farming systems.

The integration between different, complementary production systems (e.g. livestock and crop production) is also raised as a research need by some partners. Transnational research could be undertaken to improve our understanding of what the barriers are which prohibit these linkages. However, it may be necessary to take into account geographical and cultural difference in production systems, differences in husbandry and farm practice between countries, and the need for research activity to remain close to the research users.

Prioritised topics:

*Multifunctional organic systems, including non-food products*

*Development of organic systems, such as stockless systems*

*Production efficiency/identification of successful practices*

*Drivers and barriers to conversion*

### **3.2 Animal husbandry**

Animal health and welfare is raised as the third important research topic among partners, particularly with respect to disease and parasite management, including preventative health and improving therapies to reduce reliance on antibiotics. Transnational research fostering the transfer of technology and knowledge between partners could be considered. This has the additional merit of fostering common standards and animal welfare aspirations in the future.

Several partners share the aim to identify and develop breeds that are better suited to organic conditions and that improve animal welfare (particularly free-range conditions for animals). This could proceed in a way similar to that in crop production. Several partners also see a need to identify breeding methods acceptable to organic farming and to apply these to produce breeds specifically for organic production.

More than one partner mentions optimal production and/or efficiency as current research needs. This is another area where there are differences in husbandry and farm practices between countries, and there is a need for research activity to remain close to research users. Nevertheless, because animals regulate their own physiological environment, there is also common ground in the problems related to animal production.

Prioritised topics:

*Animal disease and parasite management, including preventative health and improving therapies to reduce reliance on antibiotics.*

*Feeding livestock for meat with 100% organic fodder*

### **3.3 Crop husbandry**

The identification of varieties that are better suited to organic conditions is a theme common to several partners, and further inputs from partners could be developed as a collaborative project, possibly preceded by a study on the partners' current research methodologies and the statistical basis behind current assessments in order to optimise

any subsequent transnational research. Several partners also seek to identify and develop breeding methods acceptable to organic farming, which could then be applied in breeding programmes.

Improving crop production and the effective management of pests, diseases and weeds in crop systems is a theme common to several partners. Due to the geographical and cultural differences between areas in which crops are grown and used and the partners' need for their research activity to remain close to their research users, crop management research might not be a priority for wide transnational research activity, but rather for certain partners with similar agro-climatic circumstances.

Prioritised topics:

*Weeds, pests and diseases management*

*Intercropping systems: Crop protection, weed control, engineering improvement, nutrition management, ensuring adequate yields*

### **3.4 Environmental aspects and Soil**

The impact of organic farming on the environment (including biodiversity) as well as identification of agricultural practices that maintain biodiversity are the most important issues for partners. Because of the differing countries, regions, landscapes as well as farming practices between the partners, it would be necessary to clarify the outputs to be expected by each partner who undertakes the funding of a collaborative project.

Rotations, nutrient management, soil and soil fertility are themes common to several partners. It is assumed that a great deal of research is already being undertaken in these themes on both the international and nation level. The main need raised by several partners is the management and optimisation of nutrients within organic systems, which could be addressed by a collaborative project.

Prioritised topics:

*Impact of organic farming on the environment (positive and negative), including biodiversity. Identification of agricultural practices that maintain biodiversity.*

*The management and optimisation of nutrients within organic systems*

*Building and maintenance of soil fertility*

*Organic food and farming and GHG emissions*

*Soil nutrient management in horticulture and its impact on the environment*

### **3.5 Food systems**

Several partners seek to improve the quality of produce from primary production and the impact of storage and processing on the quality of organic food. This includes research on the appropriateness of additives and processing aids used within organic processing. This could be undertaken through transnational research. It may have the additional merit of fostering a common approach and common aspirations. The nutritional content and the development of holistic methods for food quality measurement are needs common to several partners.

Several partners identified food safety as a research theme, in particular, the risks of contamination related to the use of manure and of mycotoxins in organic produce. Further Information on the research outputs sought by partners would help in the initiation of a transnational research project in this area.



Socio-economic research is a common research need, with emphasis on the economic aspects. Several partners seek a greater understanding of marketing and the food chain. A collaborative project, with a national and regional approach, to inform about the improvement of national and local markets could be delivered through transnational investment.

Organic conversion is important for several partners who see a need to understand a successful physical conversion and the impact of conversion on the environment. Due to the geographical and cultural differences this research area may not be a priority for transnational research activity.

Prioritised topics:

*Quality of organic food – health and safety*

*Innovative marketing strategies. Identification of successful marketing methods. Local markets*

*Cycling and recycling of natural resources; nutrient, water and energy management*

*Supply chain management/economics*

*Market research and consumer attitudes*

*Consumer trust (process, quality etc); regional aspects; risks of conventionalisation*

### **3.6 Values, standards and certification.**

Research on the effectiveness and scale of national policies and instrument was the second most important research topic among the partners. The research needs of the partners' regarding legal aspects and standards focus on the demands of standards and the provision of robust information to underpin standards. Much of this work may already be undertaken under national programmes.

The impact of organic standards on trade is an important issue common to partners, both for domestic producers and for those wishing to import into the EU. Several partners are also interested in understanding how standards impact on international trade. These needs could be addressed under transnational research.

Prioritised topics:

*Research on the effectiveness and scale of national policies and instruments.*

*Impact of organic standards on trade (domestic producers and those wishing to import to the EU)*

*Knowledge transfer*

## **4. Integration of research facilities and topics**

### **4.1a Research farms and experimental fields**

Research farms are preferably utilised to improve and modify Production systems at production system level, both in Animal and Crop husbandry. Research farms have been identified as a valuable tool to study the improvement of breeding and cultivation techniques. Experimental fields are mainly utilised to carry out research on Crop production systems. In few cases experimental fields are dedicated to Compost and manuring, Weed management, Breeding and genetics, and Crop health and protection research. Experimental fields could be utilized in Soil research, too.

Experimental fields are valuable tools where crop husbandry research in stockless farming system (or low stocking rate farming systems) is needed. On the other hand, when both

crop and animal husbandry are present and linked to each other, research farms are better tools as they allow to carry out integrated activities and research to study interactions and synergies.

Research farms should be kept fully occupied, while maintaining these facilities is expensive. It is most likely that in the future there will be fewer research farms available and more and more research will be carried out as on-farm research

#### **4.1b On-farm research**

On-farm research is done in almost all countries. Research carried out using this approach covers a wide range of sub-subject areas of Plant and Animal husbandry. On-farm research can be used as a tool for short or long-term monitoring activities, too. Although this kind of research requires a lot of work, it gives wide and 'true' on-the-spot data on farming practises. This kind of research may provide data for comparisons between different countries in transnational research. On-farm research could also be applied in the topics of Farming systems, Soil, Environmental aspects as well as Food systems.

#### **4.1c Networks**

Networks, more or less permanent, have been established among farms as well as between research institutes and farms in 8 countries. In addition to data collection, the networks are a tool for dissemination of research results and communication. In some countries participatory research is used as an important tool to formulate problems, carry out experiments and evaluate results. Transnational research could be carried out using the data collected by networks. More subject areas (i.e. Food processing, Marketing, Consumer issues, Environmental aspects, Social and Economic aspects) could be covered by this type of facilities.

#### **4.2 Long-term experiments and leaching fields**

Long-term experiments are widespread in almost all farming systems (animal-dominated, low stocking rate, stockless systems) and are aimed at carrying out research on a wide range of topics (i.e. improvement of production systems, nutrient management, plant protection, soil and yield quality, environmental impacts). In some cases, data for economic analysis are collected or calculated as well.

As long-term experiments are usually expensive and labour-consuming, they should be established only if research results and conclusions could not be achieved by using other types of facilities. On the other hand, where LTEs exist, they provide very valuable research material that should be utilised by merging data from various experiments. It should also be considered whether some changes in experimental design may be carried out to facilitate the merging of results.

All experiments are more or less field experiments, where data are collected from soil, water and plants. LTEs could perhaps also be applied in animal research, like Animal health research. Social aspects as well as Economic monitoring could be the focus of LTEs e.g. via farm networks, if they fulfil the criteria of LTEs. In crop production, only little work is done on Berries and Viticulture and not at all with Olives and Ornamentals and Bulbs. Soil tillage research as well as Environmental aspects other than nutrient leaching could be strengthened.

Leaching fields are situated in the Nordic countries, and the main focus in these has been on Manures and Crop rotations. The treatments in these experiments could be harmonised to get a wider picture of the results. On the other hand, the change of the set-up and/or

the experimental design of these facilities aiming to find answers to new research questions should be taken into account.

It is likely that, because of the different soil properties and climate characteristics, the facilities and methodologies utilised may vary greatly among countries, which means that methods other than leaching fields are utilised in environmental studies, too. Leaching studies are probably not carried out in fully dedicated facilities like experimental fields, research farms and, mainly long-term experiments, by other methods like soil samples, suction cups and nutrient balance calculations.

#### **4.3 Animal research facilities**

There are animal research facilities in 8 countries and they are mainly used for dairy cattle research. There are Sheep and Beef cattle research facilities in NO, SE and UK, but there are only a few facilities for Poultry and Pig production research. These facilities could be used internationally, because animal production research, especially animal feeding and breeding studies, are quite expensive. The important topic Animal health and welfare research as well as simple Feeding experiments can also be partly carried out on farms, but it is important to have permanent facilities as well.

### **5. University education**

The university education concerning OFF in the participating countries is presented in the Annex. The information is based on the Country reports of the Core Organic project.

This information can be collected as Organic e-prints (OEP) so that it is easy to find by all those who are interested. The template in OEP could contain the details listed below.

#### Details in Organic e-prints:

Title \*

Translation of Title

Acronym

Online at

Start Date: Year: Month:

End Date: Year: Month:

Leader(s) \*

Institute

Department

Summary \*

Additional Summary (second language)

Keywords

Classification\*

Curriculum at PhD –level,

Curriculum at BSc and/or MSc –level

OFF Course at University

Subject Areas \*

Related Links

At the moment there are two projects running which have been funded by the EU: A Multilingual Federation of Learning Repositories with Quality Content for the Awareness and Education of European Youth about Organic Agriculture and Agroecology (Organic.Edunet, <http://www.virtuelleschule.at/organic.edunet/index.html>) and ENOA. It

was decided in the GB meeting in Vienna 14<sup>th</sup> September that the information gathered in this report will be forwarded to these projects to be included in their web pages.

## 6. Conclusions

There are at least two ways to identify research topics and the utilization of research facilities: spatial approach with climatic and agro-ecological zones and national research topic prioritization. The first one is introduced in the WP6 final report and may give answers to more common and wider questions as well as cover all countries. The latter is focused on more narrow problems and the interests are shared by only few countries. In both cases it is possible to utilize suitably located research facilities.

At present the most important research topics among partners are within categories Environmental aspects, Animal husbandry, and Values, standards and certification. Environmental aspects, Soil and Animal husbandry research require the kinds of facilities dealt with in this report, which means that it is important to maintain these and discussion on their more effective use is strongly recommended. Animal research facilities, in particular, are not available in all participating countries and thus the coordination of their use is very important. A good number of research needs, which are in the interest of several partners are found in Food systems category (Food security, food quality and human health, Markets and trade, Policy environments and social economy, Produce chain management, Recycling, balancing and resource management). The facilities listed in this report do not make a significant contribution to these topics, except as regards primary production in the context of food chain research as a whole.

The objective of WP4 was to make a proposal with suggestions concerning more effective and improved use of research facilities, and topics relevant for integration in joint research projects. Research facilities are needed should a research need arise which can be fulfilled through the characteristics of a specific facility. In the meantime the facilities have to be maintained, which is very expensive. This is why facilities are being shut down in many countries at the moment, and more effective transnational use of the facilities could be an answer to the problems involved. It is suggested that the facility owners and researchers should be invited to discuss which facilities are the most important and should be maintained for transnational research projects. This requires money for travelling, which is why this kind of meeting or workshop should be a topic of the next joint action in the future coordination project.

The other aim of WP4 was to create a scheme for training of research personnel and exchange of experts to promote the exchange of experiences on how to conduct research by means of a systems and systemic approach. This was not possible, however, and a decision was made to focus more on the preparation and management of a common call in the CORE Organic project. Information was collected on the university-level education on OFF in participating countries. This information is forwarded to two ongoing projects which deal with education in OFF.

Further, it is suggested that the training scheme should be a topic (or part of it) of the next coordination action of OFF. It is also possible to include this kind of scheme in Marie Curie actions under FP7. As it is assumed that in the future more research is carried out on-farm and in networks instead of 'traditional' field experiments, research methodology is needed for teaching researchers as well as for research personnel. A common methodology for long-term experiment research is also needed.

## **Annex: Scientific education & research schools in participating countries**

Based on the information in Country reports of participating countries

### **1. Curriculum at PhD –level**

#### **Germany**

*University of Bonn*

Contact: Prof. Köpke, <http://www.iol.uni-bonn.de/>

#### **Netherlands**

*Wageningen University and Research Centre*

Description: qualified applicants four-year PhD programme.

#### **UK**

*Institute of Rural Sciences, University of Wales, Aberystwyth*

Ceredigion, SY23 3AL, Tel: 01970 621614 Fax: 01970 611264

E-Mail: [irs-enquiries@aber.ac.uk](mailto:irs-enquiries@aber.ac.uk)

Internet: <http://www.irs.aber.ac.uk/brochure/organic.shtml>

\* Postgraduate Certificate in Organic Business Management, Livestock Production and Environment (f/t 1 semester)

\* Postgraduate Diploma in Organic Agriculture (f/t 2 semesters)

### **2. Curriculum at BSc and/or MSc –level**

*AGROASIS - the Nordic School of Agro ecology/Ecological Agriculture.*

Description: The primary responsibilities of the school are the development and content of a Nordic educational programme (MSc., PhD), and a Nordic research and development programme. AGROASIS is a NOVA University Network project between:

- *Norwegian University of Life Sciences, UMB - Norway*
- *The Royal Veterinary and Agricultural University, KVL - Denmark*
- *The Swedish University of Agricultural Sciences, SLU - Sweden*
- *University of Helsinki, HU - Finland*
- *Agricultural College of Hvanneyri, LBH - Iceland*

#### **Austria**

*University of Natural Resources and Applied Life Sciences (BOKU), Vienna.*

\* Master study "Organic Farming"

#### **Finland**

*University of Helsinki, Ruralia Institute in Mikkeli*

- Bachelor of Science degree,  
[http://www.mttk.helsinki.fi/ecostudies/english\\_studies.htm](http://www.mttk.helsinki.fi/ecostudies/english_studies.htm) or –courses.
- Advanced studies are also being planned.

Description:

The education offers qualifications for critical examination and sustainable development of Organic Food and Farming and prepares students to work specifically in jobs related to the

organic food chain. Basic studies give a general view to organic production and underlying principles, while intermediate studies deepen the understanding of current issues in organic production. In the academic year 2005 – 2006, there are altogether 17 courses, which discuss sustainable development and principles of Organic Food and Farming, primary production (production systems, plants, animals), food production (food, food chains, manufacture, social and economic issues), quality, food systems and case studies. Within these courses, students also have the opportunity to take basic and intermediate literature exams, do practical training, for example, in a research group and carry out projects of their own.

## **Germany**

*University of Bonn*

Contact: Prof. Köpke, <http://www.iol.uni-bonn.de/>

*University of Giessen*

Contact: Prof. Dr. G. Leithold, <http://www.uni-giessen.de/orglandbau/>

*University of Kassel-Witzenhausen*

Contact: Prof. Dr. J. Heß, <http://www.wiz.uni-kassel.de/foel/>

*Hochschule für Technik und Wirtschaft Dresden*

Contact Prof. Dr. Knut Schmidtke <http://www.htw-dresden.de/pillnitz/>

*University of Applied Sciences Eberswalde*

Contact Prof. Dr. Hans-Peter Piorr, <http://www.fh-eberswalde.de/oelbv/>

## **Italy**

*University of Bologna*

Description: Sustainable development and agro-environment systems management

*University of Firenze*

Description: Agro-ecology (organic and biodynamic farming)

*University of Milano*

Description: Management, control and marketing for organic production

*University of Napoli*

Description: Organic farming

*University of Pisa*

Description: Exploitation and control of quality agro-food production

*University of Siena*

Description: Communication for wine and food, typical and organic products

*Mediterranean agronomic Institute of Bari (IAMB-CIHEAM)*

Description: Mediterranean organic farming

## **Netherlands**

*Wageningen University and Research Centre*

Description: a complete curriculum Organic Agriculture, which is broadly oriented on the supply chain (production - processing - trade – consumption) as well as on disciplines (technique, economy, society and environment). The curriculum is problem oriented and assumes an integrated approach of the total (farm) system.

\* BSc programme, conducted in the Dutch language, Biologische

Productiewetenschappen, (Organic Production Sciences).

\* MSc programme, international, conducted in English, with a choice of two major subjects:

- Farm and Rural Environment
- Consumer and Market

## **Norway**

*Hedmark University College, Hamar*

Description: The Bachelor study, which focuses on environmentally sound production of food, with the slogan “Clean food and a clean environment”. To refrain from agricultural chemical inputs is a challenge, and more knowledge is required from the advisers as well as from the farmers. The study offers this kind of knowledge to both these groups, and the study is both theoretical and practical.

*The Norwegian University of Life Sciences (UMB)*

Description: The Master degree offers an international two-year Master program in Agro ecology, through Nordic collaboration in AGROASIS

## **Sweden**

*The Centre for Sustainable Agriculture (CUL) at Swedish University of Agricultural Sciences (SLU)*

Description: CUL is financing the Swedish participation in the Nordic network AGROASIS, for the development of a common MSc in agroecology. The objectives are among other things to promote the development of ecological and sustainable food systems and to emphasize the multifunctional role of agriculture. The educational programme is based on agroecology with a clear interdisciplinary approach including e.g. producers, consumers or citizens.

## **UK**

*Institute of Rural Sciences, University of Wales, Aberystwyth*

Contact: Ceredigion, SY23 3AL , Tel: 01970 621614 Fax: 01970 611264,

E-Mail: [irs-enquiries@aber.ac.uk](mailto:irs-enquiries@aber.ac.uk)

Internet: <http://www.irs.aber.ac.uk/brochure/organic.shtml>

Description:

Course titles: BSc(Hons) Organic Agriculture (f/t)

BSc (Hons) Organic Agriculture Top-Up (f/t)

BSc(Hons) Rural Resources Management (organic options) (f/t)

HND in Agriculture (organic option) (f/t)

*Scottish Agricultural College*

Contact: Ferguson Building, Craibstone, Bucksburn, Aberdeen, AB21 9YA, Tel: 0800 269453

E-Mail: [recruitment@sac.ac.uk](mailto:recruitment@sac.ac.uk)

Internet: <http://www.sac.ac.uk>

Course titles: PgC/PgD/MSc Organic Farming (f/t or p/t by distance learning)

BSc (Hons) & HND in Agriculture (Organic options) (f/t)

Training services for farmers.

*University of Newcastle upon Tyne*

Contact: Newcastle Upon Tyne NE1 7RU, Tel: 0191 222 5594 Fax: 0191 222 8685

E-mail: [enquiries@ncl.ac.uk](mailto:enquiries@ncl.ac.uk)

Internet: <http://www.ncl.ac.uk>

Course titles: BSc (Hons) Organic Food Production (honours option in BSc Agriculture) (f/t)  
Pg/D & MSc Sustainable Land Management and Rural Development (organic option)

*London South Bank University*

Contact: Faculty of Engineering, Science and Built Environment, 103 Borough Road, London SE1 0AA; Tel: 020 7815 7815

E-mail: [enquiry@lsbu.ac.uk](mailto:enquiry@lsbu.ac.uk)

Internet: <http://www.lsbu.ac.uk/esbe/courses>

Course title: BSc (Hons) Organic Food Studies (f/t 3 years or sandwich 4 years)

*Royal Agricultural College*

Contact: Cirencester, Gloucestershire, GL7 6JS, Tel: (01285) 652531 Fax: (01285) 650219

E-Mail: [steve.chadd@rac.ac.uk](mailto:steve.chadd@rac.ac.uk)

Internet: <http://www.rac.ac.uk>

Course title: BSc (Hons) Agriculture (organic farming)  
MSc Organic Agricultural Systems

*Harper Adams University College*

Contact: Edgmond, Newport, Shropshire TF10 8NB, Tel: (01952) 820280 Fax: (01952) 814783

E-mail: [admissions@harper-adams.ac.uk](mailto:admissions@harper-adams.ac.uk)

Internet: <http://www.harper-adams.ac.uk>

Course title: PgC/PgD/MSc Sustainable Agriculture (organic option)

*The University of Reading*

Contact: Whiteknights, P.O. Box 217, Reading, RG6 6AH, Tel: 0118 378 8618/9

Email: [sapdstudentoffice@rdg.ac.uk](mailto:sapdstudentoffice@rdg.ac.uk)

Internet: <http://www.agric.rdg.ac.uk>

Course titles: BSc Agriculture (year 2 organic option) (f/t 3 years)  
MSc/ MPhil Tropical Agricultural Development (organic option) (f/t 12/24 months)

*Writtle College*

Contact: Chelmsford, CM1 3RR, Tel: 01245 424200 Fax: 01245 420456

E-mail: [info@writtle.ac.uk](mailto:info@writtle.ac.uk)

Internet: <http://www.writtle.ac.uk>

Course titles: BSc (Hons) Agriculture (year 2 organic option) (f/t 3 years)  
BSc (Hons) Agriculture with Business Management (year 2 organic option) (f/t 3 years)  
BSc (Hons) Agriculture and the Environment (year 2 organic option) (f/t 3 years)  
FdSc Agriculture (year 2 organic option) (f/t 2 years)  
BSc (Hons) Horticultural Crop Production (year 2 organic option) (f/t 3 years)



BSc (Hons) International Horticulture (year 2 organic option) (f/t 3 years)  
FdSc Horticultural Crop Production (year 2 organic option) (2 years f/t)  
FdSc Horticulture (Nursery & Retail) (year 2 organic option) (2 years f/t)

### 3. OFF Courses at Universities

#### Austria

*The Institute of Agricultural Environmental and Energy Engineering*  
*The Department of Livestock Science*  
*The Institute for Agricultural Economics*  
*The Institute for Organic Farming*  
*The University for Veterinary Medicine at the Research Institute for Biological Agriculture*  
*The Institute for Alpine Agriculture at the University of Innsbruck.*

#### Denmark

*The Research School for Organic Agriculture and Food Systems (SOAR)*  
Description: The Royal Veterinary and Agricultural University (KVL) in cooperation with DARCOF have a post-graduate research school in organic food and farming. The purpose of the school is to strengthen the quality of research education in organic farming. The school offer scientific courses as well as a network environment for post-graduate students in organic agriculture. The students are encouraged to interdisciplinary and wholeness-oriented work. And the school aims to reinforce the cooperation of students and supervisors in and across institutions.

#### Finland

*The University of Helsinki*  
*The University of Joensuu*

#### Germany

*University of Hohenheim*  
Description: Organic Food Chain Management  
Contact: Dr. Sabine Zikeli, <http://www.uni-hohenheim.de/organicfood/>

*University of Kiel*  
Description: Kiel Ecology-Centre  
Contact: Hans-Rudolf Bork <http://www.ecology.uni-kiel.de/ecology/english/index.html>

*University of Goettingen*  
Description: Agroecology  
Contact: Prof. Dr. Teja Tscharntke, <http://wwwuser.gwdg.de/~uaoe/Agroecology.html>

*University of Applied Science Nuertingen*  
Description: Research and teaching  
Contact: Prof. Dr. Barbara Elers <http://www.fh-nuertingen.de/profhp/elers/>

#### Italy

*University of Torino*  
Description: Plant production (Organic farming productions) (L, 1<sup>st</sup> level, 3 years degree, Agroecologia (LS, 2<sup>nd</sup> level, 2 years specialist degree)

### *University of Firenze*

Description: Organic and environmental farming (LS, 2<sup>nd</sup> level, 2 years specialist degree)

### *University of Viterbo*

Description: Management Agricultural Sciences (Agro-ecology) (L, 1<sup>st</sup> level, 3 years degree, (LS, 2<sup>nd</sup> level, 2 years specialist degree)

### *University of Pisa*

Description: Exploitation and control of quality agro-food production (L, 1<sup>st</sup> level, 3 years degree, (LS, 2<sup>nd</sup> level, 2 years specialist degree)

### *University of Palermo*

Description: Organic farming, (L, 1<sup>st</sup> level, 3 years degree)

## **Sweden**

### *The Swedish University of Agricultural Sciences (SLU)*

Description: Many disciplinary courses at MSc-level are very general about biological and ecological principles that have possible application in many different production systems. Some of these courses are of more precise interest for organic agriculture, e.g. courses in biological pest control (offered by the Faculty of Landscape Planning Horticulture, and Agricultural Science, at campus Alnarp). SLU does not offer any specified production courses in organic farming (in English) at MSc-level. SLU has though courses, which have been designed to fit a general Nordic MSc programme structure (with different profiles in the different Nordic agriculture universities) in Agroecology.

### *Research School: SwOFF (Swedish Research School in Organic Farming and Food Systems)*

Description: The research school is hosted by The Centre for Sustainable Agriculture (CUL) at SLU. Schoolorganize ad hoc PhD-courses in different areas of organic farming. Some of these courses are designed in cooperation with other Nordic universities (and especially with the Danish research school SOAR).

### *The Unit of Applied Field Research at SLU*

Description: courses in experimental design and statistical planning according to research area and issue. These courses are at the moment not specific for organic farming research or research with a systems or systemic approach but the Unit will in the future be responsible for applied field research issues also in this kind of training.

## **Switzerland**

### *Swiss Federal Institute of Technology Zurich (ETHZ)*

Description: Introduction into organic farming

Contact: [Otto.Schmid@fibl.org](mailto:Otto.Schmid@fibl.org) [Urs.Niggli@fibl.org](mailto:Urs.Niggli@fibl.org)

Description: Case studies organic and integrated farming

Contact: [Padruot.Fried@fal.admin.ch](mailto:Padruot.Fried@fal.admin.ch) [Urs.Niggli@fibl.org](mailto:Urs.Niggli@fibl.org)

Description: Comparing low input and organic farming systems

Contact: [Padruot.Fried@fal.admin.ch](mailto:Padruot.Fried@fal.admin.ch) [Otto.Schmid@fibl.org](mailto:Otto.Schmid@fibl.org)

Description: Marketing

Contact: [bernard.lehmann@iaw.agrl.ethz.ch](mailto:bernard.lehmann@iaw.agrl.ethz.ch) [Otto.Schmid@fibl.org](mailto:Otto.Schmid@fibl.org)

Description: Vegetable production systems (including aspects of organic production)

Contact: [robert.baur@faw.admin.ch](mailto:robert.baur@faw.admin.ch)

Description: Fruit production systems (including aspects of organic production)

Contact: [lukas.bertschinger@faw.admin.ch](mailto:lukas.bertschinger@faw.admin.ch)

*University of Applied Sciences Zollikofen*

Description: Introduction into organic farming

Contact: [Robert.Obrist@fibl.org](mailto:Robert.Obrist@fibl.org)

*University of Applied Sciences Wädenswil*

Description: Various courses (including aspects of organic production)

Contact: [m.bachmann@hsw.ch](mailto:m.bachmann@hsw.ch)