

## How to improve end-users' use of research results

LIZZIE MELBY JESPERSEN<sup>1</sup>, VALERIE DEHAUDT<sup>2</sup>

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### Abstract

*There is a gap between the provision of agricultural research results and the application of innovative approaches in practical farming. Based on a questionnaire investigation in 18 European countries this study aims to contribute to identification of appropriate ways for disseminating research results to end-users and stakeholders, and to give better guidance to researchers on how best to plan and disseminate their results in relation to the needs of the end-users and stakeholders.*

### Introduction

There is a gap between the provision of agricultural research results and the application of innovative approaches in practical farming. New research based knowledge does not, or takes too long time to reach the farmers, and the needs of farmers and the food industry are not sufficiently communicated to the scientific community. Therefore, there is an increasing need to fill this gap.

The overall objective of this study, carried out under the FP7 ERA-net project, *CORE Organic II* in 2013, is to contribute to the identification of appropriate ways for disseminating organic research results to stakeholders and end users on a national and transnational level across Europe in order to increase the use of the results in practice. Another objective is to give better guidance to researchers on how best to plan and disseminate their research in relation to the needs of relevant stakeholders and end-users.

### Material and methods

A questionnaire interview study was carried out in 18 partner countries of the CORE Organic II project, i.e. Austria, Belgium (Flanders region), Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, the Netherlands, Norway, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom. A list with contact details on the most important stakeholder organisations and key contact persons was drawn up with the assistance of the CORE Organic partners and key persons in each country.

A questionnaire of 17 questions was elaborated to identify: 1) Present use of tools for searching of research results; 2) Most important obstacles for dissemination and practical implementation of research results; 3) Most used tools and ways of disseminating research results to end-users; 4) Good examples of dissemination of research results; 5) Studies on implementation of organic research results by end-users; 6) Recommendations for planning of research; 7) Recommendations for improvement of research dissemination to end-users; and 8) Recommendations on tools and ways for dissemination of research results on a transnational level.

The comments collected from each country were compiled in an excel workbook and analysed country by country in relation to the 8 above mentioned subjects.

### Results

The number of relevant organisations in each country varied considerably and so did the number of respondents per country (from 1 up to 10). Below are presented the most important results.

#### 1. Present use of tools for searching of research results

The most used tool is the Internet, and the international databases mentioned most often are Google (incl. Google Scholar) and Organic Eprints. Other international websites used are the Web of Science/Web of Knowledge, IFOAM and ISOFAR. National magazines and farmer newspapers were also considered important sources.

<sup>1</sup>International Centre for Research in Organic Food Systems (ICROFS), Denmark ([www.icrofs.org](http://www.icrofs.org)), eMail: [LizzieM.Jespersen@icrofs.org](mailto:LizzieM.Jespersen@icrofs.org)

<sup>2</sup>Ministry of Agriculture, Food Processing Industry and Forestry, France

## **2. Most important obstacles for dissemination and practical implementation of research results**

Main obstacles mentioned by the respondents are:

- Scientific papers are not suited for implementation in practice because researchers don't see the results in the context of the users. Besides, they often deal with isolated problems and they are not very concrete due to scientific precaution.
- Language is a barrier in two ways: The scientific language is difficult to understand for non-scientists, and the results may only be available in a foreign language.
- Universities and researchers are not rewarded for popularization of research results, and researchers may not have the communication skills needed, while advisors do not have time and money for searching and 'translating' research results into ready to use information for farmers.
- There are too many different channels, through which knowledge is transmitted.
- Researchers are not enough aware of the needs of end-users, when they plan their research projects, and farmers are not always good to take up new research results.

## **3. Most used tools and ways for dissemination of research results to end-users**

Written communication is most used, and most used tools are webpages, databases and electronic newsletters. Oral communication is used for dissemination in training courses, field demonstrations and conferences etc. In some countries new ICT tools like videos, smartphone apps and e-learning are being developed, which may give end-users much easier access to the information they need at the time they need it.

## **4. Good examples for dissemination of research results**

Most of the good dissemination examples mentioned were projects carried out at the regional/national level, where there is no language barrier. They fell in four categories:

- Research projects with close cooperation between end-users, advisors and researchers, e.g. on-farm research, participatory research and farm schools.
- Meetings/seminars, workshops etc. with direct communication between researchers, advisors and end-users.
- Research results that are highly needed and directly applicable, e.g. plant variety testing, guidelines / handbooks on various issues, e.g. animal welfare.
- Demonstrations, e.g. field testing of different machinery for weeding, long term rotation experiments comparing yields in relation to different rotations, treatments, applications and catch crops etc.

## **5. Studies on implementation of organic research results by end-users**

Only few systematic studies on the uptake of organic research results by end-users were mentioned. More comprehensive national studies have been or are in the process of being carried out in Denmark, France, Germany, Norway and Sweden.<sup>3</sup>

## **6. Recommendations for planning of research**

The respondents generally found it of utmost importance that the relevant user groups are involved right from the formulation of research project needs (research programmes) to the planning, conducting and dissemination of the research, in order to ensure proximity to practice. It was also suggested that representatives from the target groups should be involved in the evaluation of research projects, which is usually not the case, because the main evaluation criterion is the scientific quality of the research. More participatory and on-farm research with a system approach, closer collaboration between advisors and researchers and obligatory inclusion of a plan for transformation of research results into 'ready to use' information already in the research project proposal were also recommended. As regards which type of users to include, the general response was that it depends on the subject of the project, but it also depends on how the farmers' learning is organised in the country. It was also mentioned that support to end-users' engagement in research projects throughout the lifetime of such projects is necessary for their proper involvement.

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<sup>3</sup> Denmark: [http://www.icrofs.org/Pages/Publications/knowledge\\_syntheses.html](http://www.icrofs.org/Pages/Publications/knowledge_syntheses.html)

France: VALOMIEUX: <http://www.itab.asso.fr/programmes/valomieux.php>

Germany: [http://orgprints.org/21871/1/BOEL\\_food%20quality%20and%20processing\\_2012.pdf](http://orgprints.org/21871/1/BOEL_food%20quality%20and%20processing_2012.pdf)

Norway: [http://www.forskningsradet.no/no/Artikkel/Evaluering\\_av\\_norsk\\_okologisk\\_landbruks\\_forskning/%201253952178268](http://www.forskningsradet.no/no/Artikkel/Evaluering_av_norsk_okologisk_landbruks_forskning/%201253952178268)

Sweden: <http://www.slu.se/Documents/externwebben/centrumbildningar-projekt/ekoforsk/-Startsida/Evaluation%20of%20Research%202006.pdf>

### **7. Recommendations for improvement of research dissemination to end-users**

There was general agreement that presentation of results to end-users should be made short and concise, in a popular language, illustrated with practical examples for application and adjusted to the type of end-users addressed. Popular articles from research projects should be presented more often during the project period instead of waiting until the final results are ready after several years. Valuable grey zone information obtained during a project should be published somehow, as such information may have high practical relevance for end-users, while it is not suited for scientific publication. It was advised to use communication experts for popularisation and putting the research results into the context of the end-users. The target groups should be integrated in the dissemination activities or researchers should cooperate with organisations specialised in organic farming advice and knowledge transfer. It was advised to use already existing communication channels for farmers, e.g. newspapers, magazines, field days and farmer networks etc. instead of inventing new ones. Some also emphasised the use of modern ICT tools like videos, smartphone apps and e-learning.

### **8. Recommendations on tools and ways for dissemination of research results at the transnational level**

There was wide agreement among respondents that a common European wide platform/ website/database for all national and transnational organic research results would be an excellent idea, as the information sources on organic research results currently are very scattered. Such a database should not only include scientific literature but also a section on practice oriented "ready to use" information and relevant "grey" literature. It was suggested that it could build on Organic Eprints, but at the same time it was advised that the search tools should be improved and more practice oriented. As regards the language problem the experts suggested that until a satisfactory electronic translation tool is developed, short and precise practice oriented summaries should be made in the main European languages. Some suggested to supplement the database with a weekly or monthly newsletter in several languages with short information on new practice oriented results, which may be downloaded in full on computer, tablet or smartphone according to a defined interest profile of the subscribers. It was recommended to use already established relevant international networks for dissemination, and if such networks do not exist, to create networks involving farmers, researchers and advisors at the European level. Other suggestions were international seminars/workshops, study tours, staff exchange and increased use of new ICT tools.

## **Recommendations**

Based on the study the following recommendations should be highlighted:

- It is important that representatives from the user groups and relevant stakeholders are involved in research from the planning of research programmes to the dissemination of research results to secure the complex needs of end-users and an increased utilisation of the results.
- An international communication team or national teams should be established and funded for taking care of the translation of research results into practice oriented information and for translation into the language of the end-users.
- Use of new ICT tools for dissemination of research results in a way and time suitable to the need of different types of end-user groups should be investigated and developed more thoroughly.
- Funding bodies should work together at the European/World level to develop a ranking system that also rewards universities and researchers for popularisation of their research results.
- Development of a common European database and newsletter on organic research results, containing scientific as well as grey literature and practice oriented information, e.g. by building on the Organic Eprints archive, which is well known by most organic researchers and many agricultural advisors.
- Events, where researchers, advisors and farmers either work together or come together to discuss (e.g. field demonstrations, workshops etc.) should be used more often in organic research projects, though they may be more costly than written dissemination.
- Transnational and inter-regional cooperation on organic research programmes and projects should be strengthened to increase harmonisation of research methods, funding efficiency and increased applicability of research results that may be used in several countries or regions with comparable problems, geographic and climatic conditions.
- Much can be learned from a systematic analysis of the impact of national and transnational organic research programmes, and it is therefore proposed that a common methodology is developed and used for impact assessment of national and transnational research programmes.

