ICROFS DIRECTOR AND CORE ORGANIC II ERA-NET CO-ORDINATOR, **DR NIELS HALBERG,** DISCUSSES THE BENEFITS OF SUSTAINED OR INCREASED RESEARCH AND FUNDING FOR EUROPEAN ORGANIC AGRICULTURE

Farming the future

The sustainable production of high quality food, reducing dependency on high energy inputs, improving environmental and nature conservation, climate change adaptation, animal welfare and rural livelihoods, are all important challenges faced by European agriculture which can be addressed through organic agricultural practices.

However, while the sector has grown dramatically in recent times, much more research needs to be done for this innovative field to come to realise its true potential. As such, the CORE Organic II ERA-Net aims at an effective and sustainable transnational research programme, and has identified common research priorities for the organic sector where a transnational approach will give added value, has initiated research projects, and is organising project monitoring and the dissemination of results.

PEN asked Dr Niels Halberg, director of the International Centre for Research in Organic Food Systems (ICROFS) and co-ordinator of the CORE Organic II ERA-Net about the benefits the initiative can bring, the project selection process, and his views on the future of organic agriculture research funding, both at a European and national level.

Dr Niels Halberg

What have you learned from the first CORE Organic initiative, and how have you built on this experience?

Perhaps one of the most important things we learned from the first CORE Organic ERA-Net was that it is not only possible to commission and fund researchers by beginning a dialogue between many national funding bodies in order to reach an agreement on the topics they want to research, but that this can actually produce extremely interesting results.

Nevertheless, there are, of course, challenges involved in deciding how to actually allocate that funding, as the perspectives of the different participants from different countries must all be taken into consideration. What is more, an initiative involving such a range of participants involves challenges related to how the project co-ordinators can be sufficiently supported in order to be able to keep their respective projects on track.

Why is it important, and indeed necessary, to bring together European research into organic food and farming? Do you feel that it is a little too dispersed at the moment, and there needs to be more cohesion?

The CORE Organic ERA-Nets have brought a lot more cohesion to the field, because, at least at the time when we began the initiatives, organic agriculture was a relatively small sector (indeed, this is still the case in many European countries), and, in order to provide a sufficient volume of research in this area, it was necessary to bring more researchers together.

Of course, the European Commission has funded this type of research through the Knowledge-Based Bio-Economy (KBBE) FP7, but one of the main ideas behind the European Research Area was also to enhance the co-ordination of national funding, and that has certainly had its advantages in field of organic research, and some of the projects we supported in CORE Organic I have clearly demonstrated that.

The co-ordination of national funding in order to provide transnational research is of the utmost importance to the field of organic agriculture. For instance, in order to properly study health or feeding management in organic livestock, it is necessary to study what farmers are doing on their farms, which requires research at a number of farms, and it is difficult to find that many locations in any particular country.

Transnational research is therefore something we have actively funded, and some of the new projects we have supported will study, perhaps, 100 organic pig farms across Europe, while others will study the same number of poultry farms. We have seen that this works, while it also helps the researchers involved share their knowledge and experience and, indeed, to bring that experience across borders, which is also very important.

This type of collaborative effort has also helped in the creation of not only a larger researcher base but has also enabled scientists and researchers from some countries where there has been very little research into organics to join European consortia, and that has strengthened the research in many European countries.

Indeed, we have actually encouraged project consortia to include researchers from as many European countries as possible. Furthermore in

Research into organic laying hens, fed different diets in order to test which proportion of their feed they can find themselves by scavenging on the grass and soil

some cases, if we have found that after the first stage, the shortlisted projects have not included participants from a certain country, we have not only encouraged but have also increased the financing for the project co-ordinator if they would expand the consortium. That is something that is not done within KBBE projects, for instance.

Do the opinions of countries that have contributed more funding carry more weight than countries that have contributed less?

No; there are a number of countries that have contributed more than others, but it has not been dominated like that, as every country is free to put in funds for the topics that they want to see researched.

Over the last several years, we have developed a catalogue of research challenges for the sector, from the viewpoints of the different countries, and when we can find consensus among the funding bodies, we generate a call topic.

This is a catalogue of the funding bodies' perceptions of the research priorities that should be taken into consideration in order to improve the organic agriculture sector and, when we meet, we discuss the issues, and when we have funds for another call, we choose the topics that we feel would move the sector forward. Of course, we take note of all the areas that are mentioned, but we try to focus on a particular challenge that will have the largest benefit for both the sector itself and the majority of countries involved.

Once we have agreed upon the key challenges, we create the call topics. While this is both simple in theory but sometimes difficult in practice, it is an extremely important process, because different partners from different ends of Europe bring their particular topics to the table, and we discuss them and try to see how each of them fits into a joint call, which is a very strong guideline, then when we see the initial proposals. It is pleasantly surprising that even when there are over 20 funding bodies around the table, a consensus on the projects which should be funded can be reached.

What do you feel are the drivers for further research into organic agriculture?

There are two main drivers for this field to continue forward. Firstly, there is a market, and farmers need to be supported in order to supply that market, so there should be a market-focus to future research which will look for ways in which the sector can be supported and improved in order to provide the quality products that the market needs. Secondly, there are more political interests that drive forward organic agricultural research, as it is important to develop a form of agriculture that is less input-intensive, and that is beneficial in terms of the environment, biodiversity, soil fertility and animal welfare.

There is no religion behind this, but there is a pragmatic attempt to support a vibrant sector through research, as well as societal ideas or objectives concerning the development of agricultural forms that can respond to policy issues.

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From the perspective of the CORE Organic secretariat, we look at organic agriculture as something of 'a consumer supported live-scale laboratory' for the future of agriculture. We try to see if our working hypothesis of being able to intensify agriculture by means of the clever use of natural resources is achievable.

Several of the current projects that are being funded by our ERA-Net pursue this overall hypothesis, which we call 'eco-functional intensification', by investigating the idea that you can intensify agriculture by increasing the knowledge level, both in science and in practice, of how to use natural regulation and the recycling of nutrients, how to use locally available resources, and how to use and develop management practices.

How would you like to see European funding for organic food and farming research develop? Do you think there should be an increased focus, perhaps within Horizon 2020?

There should indeed be an increased focus both by the Commission in Horizon 2020 and from the individual European countries themselves.

There are two main reasons for this: organic agriculture is a sector that has shown it can produce results both from a market and a political perspective, which means that there is a good case for continuing and increasing support. Secondly, the sector itself is developing, and so it is quite natural that the funding that goes into it should also grow.

Despite many of the issues currently being debated within the organic agriculture sector in Europe, the solutions that organic agriculture works to develop, and, indeed, has already developed, are becoming increasingly relevant, especially from, for instance, the perspective of animal health and welfare.

One particular issue with regard to animal health is the use of antibiotics. Antimicrobial resistance is an increasing problem both in Europe and globally, and part of that problem is that commercialised agriculture simply uses too much antibiotics, which has a negative effect on the occurrence of antimicrobial resistant bacteria in humans. Organic agriculture, with its very clear focus on health management rather than disease treatment, has been proven to have efficient market-orientated livestock production with very little use of antibiotics.

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The Danish Food Research Institute has shown that if you take pig production, you can have large organic pig producers, comparable to conventional ones, where there are less than 10% of the antibiotics used per pig. This type of research is something that should be built upon, as there is no doubt that it would be of fundamental benefit for the rest of the sector.

This issue of antimicrobial resistance is just one reason why we would like to see funding for this type of agricultural development increased, and we are now seeing signs of that. Nevertheless, we need to see more funding allocated for this in Horizon 2020.

Within CORE Organic, we work together with a technology platform called 'TP Organics', and while the ERA-Net is about obtaining consensus in order to provide joint funding resources between national governments at a European level, the Commission's funding is different to this, in that they rely partly on technology platforms that provide a trans-European view from the onset. The TP Organics technology platform is therefore based on transnational organisations from agriculture, from industry itself, from civil society, and so on, and a research strategy and strategic plan have been developed

POLICY AND PUBLIC OPINION


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European Commissioner for Agriculture and Rural Development, Dacian Cioloş

According to an announcement made by Eurobarometer (which constitutes a series of surveys regularly performed on behalf of the European Commission since 1973), in June 2012, food security, at least in Europe, is not something which overly concerns the average EU citizen.

Indeed, the survey (entitled 'What Europeans think of food security, food quality and the relation between agriculture & the countryside', and which included more than 26,500 European citizens aged 15 and above from all 27 EU member states) demonstrated that some 56% of respondents were not preoccupied by the level of food production in their country and 57% were not preoccupied by this at EU level as a whole.

On the other hand, 76% of respondents were preoccupied by the level of food production in the world. Following on from those results, 84% of people agree that the EU should help other countries to increase their food production. Some 81% agree that the EU should increase its own food production to depend less on imports, and 77% agree that EU should produce more to satisfy the needs of its own citizens, as well as the demand from outside the EU.

Food safety and security are issues that are, of course, high on the agenda for European Commissioner for Agriculture and Rural Development, Dacian Cioloş, who, at the Rio2020 conference in June 2012 highlighted how farming can better contribute to food security and fighting poverty.

In his speech at the 'Agriculture: the way towards sustainability and inclusiveness' fringe event, Cioloş stated: "Global food security is more likely to come from increasing production and improving infrastructures in Africa and the developing world rather than pushing production up where farming is already efficient.

"Increasing agricultural productivity in these countries cannot be done through a quick fix solution. It needs long-term, consistent action plans and commitments followed steadily by national governments, the private sector, as well as international donors.

"A good example is the 2003 Maputo target where African Heads of State and Government have committed to 10% government spending on agriculture to achieve 6% growth in the sector per annum. But further efforts are needed to achieve these targets.

"This means we need a new generation of agricultural policies to support local production and sustainable agricultural practices," he added.

The Common Agricultural Policy (CAP) also figured in Cioloş' address, as he argued: "Setting agricultural production onto a sustainable growth path will be possible only with major research and innovation efforts, to which the EU Commission is committed. It is not enough to invest in research if its results are not translated immediately into agricultural practices. This is another challenge for the CAP in the years to come: access to knowledge for all types of farms, big or small. Otherwise, the cost of doing nothing would be too high."

Thus, while opinions in Europe may be divided amongst EU citizens with regard to food security, both in Europe and the wider world, at a policy level the issue is one that is not only deserving of a sustained focus, but is one that is consistently being addressed by Commissioner Dacian Cioloş in an effort to ensure Europe's sustainability within the agricultural sector.

on that overall European perspective. This has been successful in the last few calls of the Commission's KBBE FP7 by helping the Commission frame the topics relevant to organics, and I believe that this work should continue into Horizon 2020.

It would also be good to see an increased fusion between Commission funding and the ERA-Net type of funding, and, indeed, the Commission has already introduced the concept of ERA-Net+, and we hope that the next phase of CORE Organic will be an ERA-Net+, which will combine Commission funding with pooled national funding.

Aside from funding, how would you like to see the field develop?

It is important to recognise that the research in the organics sector needs to benefit from new discipline-orientated methods, using molecular techniques in biology, for instance, to help us improve this 'eco-functional intensification', and improve our understanding of plants, soil, and microbial interactions.

We are already starting to see this in a few projects, and I would really like to see more of this, along with a demonstration that researchers working in basic research and development are beginning to take organic agricultural systems and their challenges as part of their focus when they develop new techniques.

Dr Niels Halberg
Director

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