ICOAS '18
6th International Conference on Organic Agriculture Sciences

DYNAMIC DEVELOPMENTS IN ORGANIC RESEARCH

Strengthening partnerships across Europe and beyond

BOOK OF ABSTRACTS

7 – 9 November 2018
Esterházy Palace
Eisenstadt, Austria

14:00 – 15:30
Haydnsaal

Parallel Sessions II

2.1 Pathways to phase-out contentious inputs

Chair: Ulrich Schmutz – Coventry University, UK

- Replacement of Contentious Inputs in Organic Farming Systems (RELACS) – a comprehensive Horizon 2020 project, **Veronika Maurer,** Research Institute of Organic Agriculture (FiBL), CH
- Pathways to phase-out contentious inputs from organic agriculture in Europe – Research overview and preliminary results, **Ulrich Schmutz**, Coventry University, UK
- Lessons learned from phase-outs – the case of the peat phase-out in the United Kingdom, **Judith Conroy**, Coventry University, UK

Replacement of Contentious Inputs in Organic Farming Systems (RELACS) – a comprehensive Horizon 2020 project

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Organic farmers adhere to high standards in producing quality food while protecting the environment. However, organic farming needs to improve continuously to keep meeting its ambitious objectives. The project 'Replacement of Contentious Inputs in Organic Farming Systems' (RELACS) will foster the development and adoption of cost-efficient and environmentally safe tools and technologies to further reduce the use of external inputs on organic farms across Europe as well as in Non EU Mediterranean countries. Project partners will provide scientific support to develop fair and implementable EU rules to improve current practices in organic farming. Farm advisory networks in 11 European countries will reach out to farmers to ensure effective dissemination and adoption of the tools and techniques.

RELACS builds on results of previous research projects and takes far-advanced solutions forward. This will be brought about by

(i) taking forward the development of four most advanced copper alternatives, integrate these with agronomic preventive measures and develop locally adapted plant protection strategies for major crops

(ii) developing and integrating the three most advanced alternatives to mineral (paraffin) oil into pest control strategies, which take into consideration existing agronomic and biocontrol approaches, in the Mediterranean regions

(iii) assessing acceptable sources of fertilizers from recycling technologies and matching regional needs with available nutrient sources

(iv) developing integrated endoparasite control strategies for ruminants by exploiting complementary direct and preventive tools based on the use of bioactive feed plants and a biocontrol agent

(v) reducing dependency on antibiotic use in dairy cows by transferring preventive Animal Health and Welfare Planning protocols and by refining farmers' experience of use of essential oils for direct mastitis control

(vi) exploring the potential for reduction of synthetic Vitamins E and B2 usage by revising and validating the requirement definitions in livestock diets and by development of GMO-free vitamin-producing yeast strains.

The products and management practices will be evaluated in different conditions in the EU and Mediterranean third countries. RELACS will develop implementation roadmaps by analysis of the socio-economic conditions required for acceptance and adoption of alternatives and provide scientific support for relevant EU policies to develop fair, reliable and implementable rules. Rapid dissemination and adoption of techniques along the food value chain will be achieved via established dissemination structures in 12 European countries.

The project was developed by involving actors from research, farming, advisory services and industry from the very start hence implementing a truly multi-actor approach. RELACS has 29 direct and third party partners from 13 countries and is coordinated by the Research Institute of Organic Agriculture (FiBL) in Switzerland.

Organic-PLUS project: Pathways to phase-out contentious inputs from organic agriculture in Europe – Research overview and preliminary results

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Across Europe, there has been an ongoing discussion regarding inputs into organic agriculture and horticulture, which are considered more or less contentious. These discussions have contributed to the decision by the European Horizon-2020 research programme to invest 8 million Euros into two 4-year projects, starting in 2018.

This presentation provides an overview of research approaches from one of those Organic-PLUS (O+) The research work in O+ includes alternatives to the use of copper and mineral oils used for plant protection, with a special focus on potatoes, perennial Mediterranean crops like olives and citrus and greenhouse crops like tomatoes and aubergines. Further research is on better organic fertilisers such as non-animal derived fertilisers, which are compatible with 'Vegan Organic Standards', but also other 'bio-economy fertilisers', which make use of existing resources, like fishpond sediments and marine-derived fertilisers. Alternatives to peat as a growing media, an area where peat replacement is most challenging i.e. in specialised nursery crops will also be researched and discussed, and also the increasing use of plastic mulch materials and potential impact of plastic and alternative mulch materials on soil pollutants.
The research on livestock covers contentious inputs used in the major animal production systems, considering the use of natural plant sources of vitamins as an alternative to synthetic products, the use of anti-infective and immune-stimulatory molecules from plant products as an alternative to synthetic antibiotics and the use of alternative and novel bedding materials in place of straw from conventional farms.

The O+ project is also committed to research broader public concerns about contentious inputs and to further develop science-society dialogue around contentious inputs.

The presentation will also present first results from the ongoing contentious input mapping tasks to map the use of contentious inputs across Europe.
The presentation will invite discussion on further contentious inputs and possible phase-out scenarios to strengthen the contribution organic agriculture and horticulture (including conventional) can make to a true 'Bio-economy'.

Lessons learned from phase-outs – the case of the peat phase-out in the United Kingdom.

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Peat has not always been widely used as growing media. In the 1940s, ready-mixed composts started to become available to purchase in the United Kingdom and peat often featured as an ingredient. By the 1970s, many of the products on sale contained a high percentage of peat, due to its low cost and because it behaves in a predictable way. Lowland raised bogs are the most common source of peat and are unique habitats as well as important sites of sequestered carbon. Peat accumulates at a typical rate of just 1mm per year, so a 1m layer takes 1,000 years to form - it is not a renewable resource and can be better described as a young fossil fuel. Around 94% of the UK's area of lowland raised bog has been destroyed or damaged to some extent and extraction is still ongoing to supplement imports of peat from overseas.

Peat is still a permitted input in commercial organic growing, being particularly important in media for vegetable transplants and in mushroom production. In addition, the nation's gardens are increasingly recognised for their value as habitat for wildlife and there is some awareness among gardeners that using peat is an ecologically poor choice, although uptake of peat-free growing media is still low. There have been problems with the quality and reproducibility of peat-free compost but for several years, a range of brands derived from materials such as composted bark, coir and municipal 'green waste'; these are generally of good quality and perform consistently from year to year, receiving consumer awards and being comparable in price to those containing peat. The expanding availability of these peat-free blends means that more and more professional growers are phasing out their use of peat. Many high-profile gardens, including those run by the Royal Horticultural Society and the National Trust, have operated without the use of peat for many years. Despite this, in 2018, most garden centres still only stock one brand of peat-free growing media but sell a wide range of high peat content products, including some which are 100% peat.

In 2010, the government of the United Kingdom set targets to phase out peat from the amateur gardening market by 2020 and from professional horticulture by 2030. These targets, however, are voluntary and rely on the action of the industry itself. Progress has been slower than anticipated by many as will be discussed in the presentation. The use of peat as growing media is in organic growing is one of the contentious inputs to be addressed by the Organic-PLUS project.

Esterhazy

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Republic of Austria
Sustainability and Tourism