

Hennovation: Practice-driven innovation supported by science and market-driven actors in the laying hen and other livestock sectors.

Innovative, Sustainable and Inclusive Bioeconomy" ISIB-2-2014/2015: Closing the research and innovation divide: the crucial role of innovation support services and knowledge exchange

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Content

- How did it all start?
- Project objectives and approach
- Facilitating innovation
- Hennovations
- Lessons learned
- Q&A



How did it all start?

- Search for more effective methods and approaches for promoting practice change on-farm.
- Advisory systems successful in persuading farmers to change practice when the changes required are simple; when changes required are more complex farmers often seem reluctant.
- Despite large investment, there remains a gap between scientific research and adoption of applied science into farm practice.
- EU H2020 Growing policy interest in agricultural innovation generated through practice-driven collaborative learning processes.



Participatory approaches

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Danish Stable Schools for Experiential Common Learning in Groups of Organic Dairy Farmers

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ABSTRACT

The farmer field school (FFS) is a concept for farmers' learning, knowledge exchange, and empowerment that has been developed and used in developing countries. In Denmark, a research project focusing on explicit nonantibiotic strategies involves farmers who have actively expressed an interest in phasing out antibiotics from their herds through promotion of animal health. One otic treatment is a way of reaching this goal was to form participatory focused farmer groups in an FFS approach, which was In Denmark, a disc adapted to Danish conditions and named "stable schools." Four stable schools were established and went through a 1-vr cycle with 2 visits at each of the 5 or 6 farms connected to each group. A facilitator was connected to each group whose role was to write the meeting agenda together with the host farmer, direct the meeting, and write the minutes to send to the group members after the meeting. Through group focus interviews and individual semistructured qualitative interviews of all participants, the approach of the farmers' goal-directed work toward a common goal was judged to be very valuable and fruitful and based on a common learning process. Complex farming situations were the focus of all groups and in this context, problems were identified and solutions proposed based on each farmer's individual goals. In this article, we describe the experiences of 4 stable school groups (each comprising farmers and a facilitator), and the common process of building a concept that is suitable for Danish organic dairy farming.

Key words: organic dairy farming, animal health planning, farmer empowerment, common experiential

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Organic livestocl tion and disease pr the need for diseas ral behavior and na ble (DARCOF, 200 2004). In European such as a prolonged ers was initiated i out antibiotics fro combined research ated to develop str tion and manageme of phasing out ant

the use of antibiot a given herd is to through far-reaching vention initiatives based on the cond priorities of the far: on the individual fa initiating individu farms to phase out plex task. One way smaller groups of i change experience. mon learning envi

Different approa wide. In Denmark breviation of erfari have been widely of new knowledge focusing on themes control, winter fee condition scores. farmer field school: mous, 2003). Thes

Project approach based on experience of UoB researchers working with producers and laying hen industry in collaborative research projects in the EU and less developed countries

RIDETRICS A call to regulate human embryos made for research p.27



release of Newton's

to safeguard the final frontier p.32

say that they benefit being part of the UK p.



Engage farmers in research

A new wave of small-scale agricultural innovation will boost yields and protect the planet, contend Tom MacMillan and Tim G. Benton.

limate change threatens a creaking food system in which harvests are demand12. A sustainable supply of food hinges on agricultural innovation, but current investments neglect a key area for improving yields.

Since the 1970s, agricultural research and development (R&D) has invested mainly in a few research institutes equipped with cuttingedge instruments. For example, the Biotechnology and Biological Sciences Research Council, responsible for much of the public research spending in food security in the United Kingdom, invested 27% of its 2010-11 budget in just three institutes. Multinational seed and agrochemical companies invest bil-lions of dollars to develop products in hopes that they will be used by millions of farmers

This one-size-fits-all approach has had qualified success. In a 2011 analysis3, average

global crop yields increased by 56% between 1965 and 1985, and by 20% from 1985 to 2005, underpinned by increasing inputs of non-renewable resources.

But advances are slowing. According to a 2013 study4, yields have plateaued in some of the world's most important food-producing regions, including east Asia (for rice) and northwest Europe (for wheat). In some countries, yields have declined.

The next wave of innovation must be at smaller scales. What one farmer can do to boost yield or efficiency is not necessarily the same as for a farmer hundreds of kilometres away with different soil, microclimate, topology and methods. How well crops and livestock grow depends on the interaction of genes, management and gains in production will depend ever more on innovating in context. Big knowledge flowing from institute to farm I complemented by local knowledge. Enhancing farmers' own R&D co

big rewards for minimal extra cos ers everywhere are practical expe talists who understand the idiosy of their land3. Modern agronomy out of practices such as rotating rebuild soil nutrients, fertilizing fi manure, and adding lime to soil to Even technologies not invented by - new kit, seeds or chemicals - an by them to fit their circumstances.

Such essential contributions a recognized in official assessment cultural R&D. These count farmer rather than makers, of knowledge. US Department of Agriculture to US\$20 billion that the global priva invests annually in agricultural R&I not include that done by farmers⁶. M



A guide to improving the welfare of working animals through collective action

Hennovation: thematic network about practice-led innovation in the laying hen sector.

- First thematic network funded under H2020
- 32 months- 1st of January 2015 to 31st of August 2017
- Project consortium multidisciplinary team
 6 academic partners and 1 advisory
 services

















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Practice-led innovation supported by science & market driven actors in the laying hen sector

- Exploring and testing mechanisms to stimulate and facilitate practiceled innovation in sustainable animal welfare
- Multi-actors networks -> Innovation networks
- Integrating science into practice
- Pathway for co-creation/ generation of new knowledge to increase resilience and sustainability of the laying hen sector





Practice-led innovation

A **bottom-up approach** for innovation in practice to solve problems using practical knowledge and creativity on farm, during transport and at the abattoir.





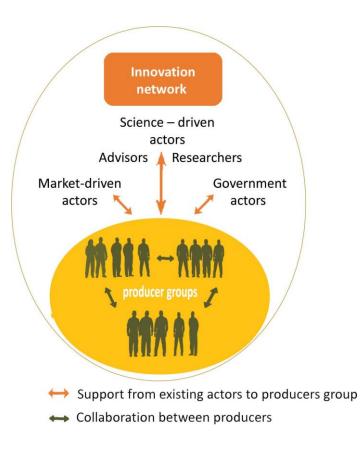


Developing and testing a new product, a new idea or a better way of doing something based on practice, economics and scientific information



Innovation networks

- 20 innovation networks
- 5 countries: United Kingdom,
 The Netherlands, Sweden, Czech
 Republic and Spain
- On-farm networks led by producers feather pecking
- National and international offfarm networks led by transporters and hen processors - transport and handling of Endof-Lay hens
- Supported by scientists, veterinarian, egg packer, feed company, pullet rearer, catchers, processing industry and others





Facilitating practice-driven innovation

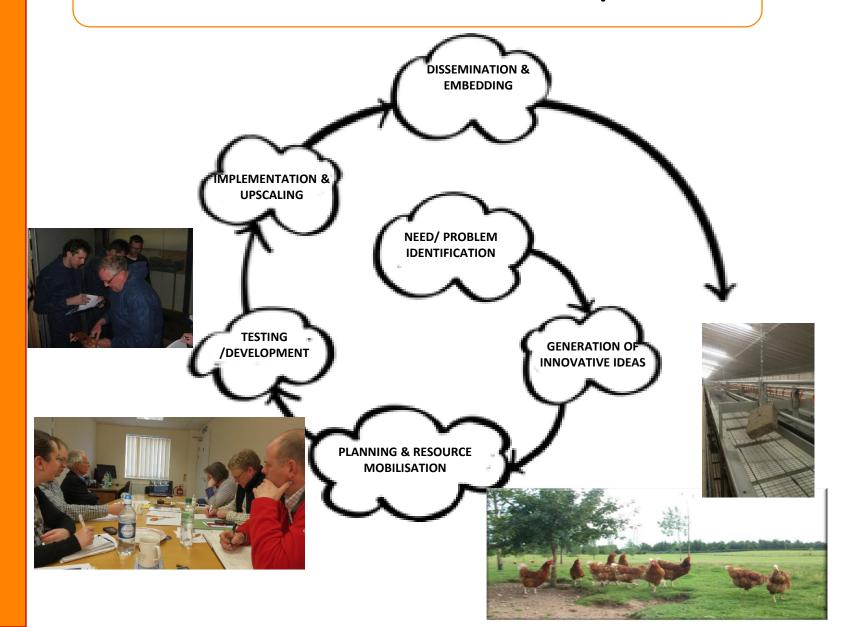
Facilitating a dynamic, practice-driven innovation process is at the heart of the project

- Expert facilitation 11 facilitators from 5 different countries
- Role of network facilitators is different from advisory roles:
 - ✓ Engage network members
 - √ manage innovation process
 - ✓ engage different actors in the networks
- Facilitator's training programme





Practice-driven innovation process

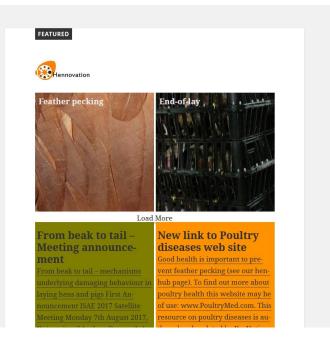


Network support

- Providing access to external knowledge -integrating science into practice
 - √ Hennovation wiki www.henhub.eu
 - ✓ Advisors and scientist "on demand"
- Knowledge exchange between networks within and between different countries.

Resources: Innovation seed grant





Hennovations

Currently testing 11 *product* innovative solutions:

- Range covers (sheds, cover crop and trees) to encourage birds out onto the range
- Variation in amino acid levels in different food batches and how this has effect on the birds
- Low costs traps for monitoring the development of Poultry Red Mites
- Different litter material, sand, to reduce stress and increase natural behaviour
- Alpacas on a farm with an outdoor paddock to reduces attacks from aerial predators
- Trollies for immediately placing hens into drawers in which they are transported to the processing plant
- Addition of a pro-biotic to reduce the percentage of 'bad' bacteria that try to colonise the hen's gut







Hennovations

• innovations in marketing e.g. a new way of marketing low valued hen meat









 organizational innovations e.g. interaction with a new actor, new approaches for communication within the laying-hen sector within a country





Lessons learned

- Large diversity in innovation networks
- Large diversity in the drivers of change within as well as between countries -> both market and policy drivers
- Need for a clear articulation of the concept of practicedriven innovation as something which producers have the capacity to realise
- There is not always scientific knowledge available
- Some farmers were expecting or were more motivated to learn from "experts", passive knowledge acquisition rather than generating new knowledge



Lessons learned

Success affected by the:

- ✓ Network members themselves
- ✓ Facilitator confidence experience, and personality
- ✓ Institutional context
- ✓ Structure of the sector
- ✓ Current market forces and
- ✓ Wider Agricultural Innovation

 Systems in each country





Enabling practice-driven innovation

Flexibility Capacity to change Collective **DISSEMINATION 8** purpose & trust & UPSCALING Time and space **Expert** PROBLEM for learning and facilitation innovation TRIALLING **GENERATION O** DEVELOPMEN' INNOVATIVE IDEAS PLANNING & RESOURCE Involve right actors at the right time Access to diversity of knowledge

ennovation

Project outputs

- Innovation facilitation training and facilitation guidelines
- Online CPD > extension module and guidelines feather pecking and EoL for advisors and veterinary students
- Practice Abstracts EIP AGRI
- Policy recommendations to enhance uptake of interactive innovation approaches within the poultry sector as well as other sectors



www.hennovation.eu









Thank you! www.hennovation.eu



