

How to ensure successful knowledge exchange between scientists and agricultural practitioners

Problem

Failure to generate meaningful and positive knowledge exchange between scientists and agricultural practitioners can be a setback to progress for both the agricultural and scientific industries. The lack of knowledge exchange can limit the uptake and upscaling of new innovations in farming, as designed, produced and supported through scientific research. Conversely, failure to exchange knowledge can inhibit the capacity of scientists to capture practical knowledge and valuable information from farmers.

Solution

To facilitate knowledge exchange between scientists and agricultural practitioners, cross-sector communication, both individually and in groups, is essential. It can be facilitated in a number of ways, including online webinars and workshops, open forums, consultations and in-person events (Figure 1). This contributes to effective and high-quality knowledge exchange between people that tend not to interact very often, while trying to fulfil the same goal.

Benefits

Engaging with external organizations and people can instigate new opportunities for research ideas, enable access to resources that may have previously been inaccessible and build new partnerships to share new ideas. Furthermore, new income streams can open with knowledge exchange. For both farmers and scientists, a number of opportunities may develop with successful knowledge exchange, for example, adding value to professional development and helping to expand new partnerships and collaborations. For a scientist, knowledge exchange can enable access to new datasets, equipment or expertise that would be very expensive or unavailable otherwise. For a farmer, knowledge exchange can stimulate new learning, open doors to bespoke and highly accredited advice, and insight into new practices for sustainable farming.

Practical recommendation

- Set up or contribute to collaborative research projects.
 - Numerous projects involving agricultural practitioners, farmers, agronomists, scientists, independent and research organizations begin every year. If you have the resources to set one up, reach out to interested stakeholders to build a project.

What is knowledge exchange?

Knowledge exchange is a key procedure that brings together scientists, academics, and other stakeholders, wider groups, and communities to increase the impact of important research. Knowledge exchange encourages the sharing of data, experiences, expertise, and ideas.

Benefits of knowledge exchange:

- Build on mutually beneficial relationships with external contacts
- Contribute positively to society
- Provide further opportunities for students, organisations, staff groups and individuals
- Generate new streams of income
- Formulate and conduct research from the field with real-life practitioners.



Figure 1: (Top) A panel of researchers, farmers, and advisors at a demonstration event run by LEAF. (Bottom) Meeting between organic farmer and UNEW researchers. Photos: (LEAF, 2021)

- There are many platforms, organizations and networks, such as those taking part in the SolACE project, looking for additional partners to join. There are many avenues and people to speak with about being involved in research projects.
 - For instance, use the comment section on the SolACE discussion forum to share your experiences with other farmers, advisors and scientists
- Set up events to engage with external audiences:
 - Identify the focus for the event, such as, a particular management practice, farming system or relevant topic, that is of interest.
 - Define the target audience: farmers, advisors, researchers or a mix, to help identify their key interests and areas of influence.
 - Plan the event based on how knowledge exchange can be facilitated. For instance, demonstration events on farms can show different farming practices in action and provide an opportunity to carry out testing in real-time, whilst virtual workshops with large audiences allows knowledge exchange to be widespread and provides the opportunity for interactivity and polls.
- For agricultural practitioners:
 - Use and communicate your practical and technical knowledge to directly contribute to projects run by research organizations and scientists.
 - If you have facilities on-farm, use these for demonstration events and workshops showing how innovations and research can be applied to real-life settings and farming systems.
 - Create your own videos and write blogs to communicate your knowledge to wider audiences. Use tools such as the LEAF Speak Out toolkit for advice and guidance.
- For scientists:
 - Share and provide specialist facilities, testing services and equipment with agricultural practitioners.
 - Such resources can be highly useful whilst inexpensive to use and can reveal otherwise unknown approaches to improving farming, including ways to improve nutrient efficiencies, use of innovations and novel machinery.
 - Universities, non-governmental organizations and consultancies have a wide range of resources available that agricultural practitioners can use to test variables on-farm, within their businesses and cropping systems.

Further information

Further readings

- Rose et al. (2019). Integrated farm management for sustainable agriculture: Lessons for knowledge exchange and policy. Land Use Policy, Vol.81, 834-842. ISSN 0264-8377. <https://doi.org/10.1016/j.landusepol.2018.11.001>

Weblinks

- LEAF Speak Out Toolkit – an online resource funded under the European Union's Horizon 2020 research and innovation programme under agreement No 727284, DIVERsify.
- Webpage with information on the [LEAF Network](#) of LEAF Demonstration Farms and LEAF Innovation Centres.

About this practice abstract and SolACE

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SolACE: The project is running from May 2017 to April 2022. The goal of SolACE (Solutions for improving Agroecosystem and Crop Efficiency for water and nutrient use) is to help European agriculture face major challenges, notably increased rainfall variability and reduced use of N and P fertilizers

Project website: www.solace-eu.net

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