

Summary notes from informal roundtable discussion on agricultural innovation with academics, scientists, technology companies and research institutes (25/03/2019)

As part of the Committee's inquiry into the *future of Scottish agriculture post-Brexit*, we held an informal discussion on the future of agricultural innovation with the following research institutes and stakeholders:

- SEFARI Gateway
- James Hutton Institute
- Scotland's Rural College
- The Rowett Institute
- Biomathematics and Statistics Scotland
- Moredun Research Institute
- Scottish Agricultural Organisation Society
- Intelligent Growth Solutions
- Agriculture and Horticulture Development Board
- Rural Innovation Support Service
- Quality Meat Scotland

This note summarises the main points raised during the meeting.

Agricultural innovation in Scotland

- Scotland has a challenging agricultural topography with 85% of agricultural land designated as a Less Favoured Area which creates challenges for farmers and crofters. There was agreement that agricultural innovation is one way of reducing this natural obstacle and could be a catalyst to improve productivity on farms and making them more sustainable.
- Examples of where agriculture research can deliver innovation, technology and new practices included: crop and grassland production; disease control; livestock production; land management; health, welfare and disease control; agricultural systems and land management; climate, environmental and biodiversity resilience; improved food and drink production and healthier diets.
- Attendees said there was a growing demand for new innovative technology in Scotland with progress being made to commercialise and increase every-day use of technology on farms. Animal health identified as one area where technology is currently making huge progress through advances in vaccinations and diagnostic tests.
- However, there was recognition that innovation resides not just with technologies but in practice change and developing and supporting best practice on farms. Social innovation is needed to change how farmers and communities work together.

Improving links between the research community & farmers

- There was consensus that Scotland's research community has made good progress in improving its connection with farmers and crofters by having a greater presence at major farming events and establishing successful partnerships like the SEFARI network; which acts as a bridging institution between research institutes and farmers. However more progress is still needed to engage with farmers in remote areas who feel disconnected from the progress of "main-land research institutes".
- Attendees said collaboration between farmers and researchers is a two-way process. Research needs to be farmer led with research institutes having access to farms to conduct tests and collect data. Farmers should be brought into the research process by being invited to participate more in farm field testing & trials for new innovations and highlighting to researchers' barriers they are facing, and which innovation could help ease.

Facilitating greater knowledge exchange

- Most successful attempts at increasing the uptake of agricultural innovation is when it is led by farmers rather than imposed upon them in a top-down system. For farmers to feel the impact of innovation it needs to be directly relevant to what they do. Key to this is facilitating knowledge exchange both between farmers and researchers and within farming communities via peer to peer learning. This is critical to ensure timely delivery and uptake of innovation and to identify the future needs of farming communities.
- Successful ways of promoting knowledge exchange include regional hubs and monitor farms which bring together like-minded farmers who wish to improve their businesses by sharing performance information and best practice. These existing networks can be improved by using facilitators to introduce farmers to researchers working on the problems they have identified and collaborating to find solutions.
- Farmers should be encouraged to collate and benchmark data from their farms to compare productivity across Scottish agriculture. This data can be used to pinpoint best practice from the more productive farms and allow researchers to identify new areas where innovation can make a positive impact.

Research & Development

- There needs to be more recognition that R&D is a long-term process which cannot always be market driven, otherwise breakthroughs in areas such as vaccines would not happen. Instead R&D should be led by “intelligent/informed demand”.
- Consensus that agriculture needs to go through a process of digitisation, attendees felt this would result in a “game changing” transformation for the sector in Scotland.
- Future funding needs to ensure primary production receives the same focus as robotics.

Incentivising farmers to use new research & innovation

- Uptake of innovation could be improved by targeting agricultural funding (E.g. grants) towards the application of new technologies and productivity measures. This could particularly support smaller farms who lack the capital and finance to explore new innovations and technology.
- Novel ideas of fundraising were suggested such as the use of Crowdfunding which has been used by local communities in Perthshire to build farms to help feed the local population.
- However, concern was raised that an approach that focuses subsidising the use of technologies to innovate could result in uptake that is not appropriate for all farm businesses, or which is a poor investment for farmers. For some farm’s priority should be given to improving best practice not investing in new technology.
- General consensus that uptake of innovation on farms will also increase as younger generations of farmers enter the sector who will have more “personal capacity for innovation”.

UK Government research funding

- Agri-tech funding provided by Innovate UK via the Industrial Strategy Challenge Fund is much welcomed but there is concern that funding is targeted towards large projects managed by medium and larger sized organisations, when in-fact most innovative ideas in agriculture are initiated by smaller organisations and farmers.

- Application process for Industrial Strategy research funding should be re-designed so groups of farmers and farming cooperatives can apply.
- Concern that some rural areas are not covered by existing City Region Deals, which has resulted in them lagging behind other areas of Scotland in terms of investment and infrastructure. Some attendees suggested that a rural funding deal be announced to focus on these areas and include an allocation for agri-tech innovation.
- Some attendees said innovation funding should be dealt with outside of Government, highlighting the benefits of the EU model whereby Producer Organisations are setup to deliver targeted funding at specific projects.

Priorities for future agricultural support system

- The Common Agricultural Policy has been a rigid support system which has stifled innovation. There was agreement that a new support system needs to be tailored, flexible and reward farmers who are willing to take risks and invest in new innovation and technology – risk taking means that some projects will fail, and farmers should not be financially penalised for taking well-judged risks. It should also be designed to build resilience amongst the agricultural sector rather than supporting farms with the most land.
- New support schemes should focus on incentivising integrated land use in the uplands and in less favoured areas to build business resilience and provide environmental and social benefits. Integrated land use should include: food production, forestry, agroforestry, renewable energy generation, peatland restoration and habitat management. This could diversify income streams, provide a range of employment, and potentially benefit the environment.

Future labour demands & automation

- There are a large proportion of non-UK citizens in highly skilled science, research and animal health roles across Scotland. Maintaining the ability to recruit international workers in these sectors post-Brexit is essential, especially for roles which are difficult to recruit for such as in bio-mathematics.
- Automation and robotics can reduce the reliance on non-UK seasonal workers in the future, but this is not a short-term solution to the labour shortages currently facing the horticulture sector which need to be addressed separately.