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Shared Innovation Space for Sustainable Productivity of Grasslands in Europe – Inno4grass



Key external stakeholders:

Grassland farmers (Irish and European)
Grassland researchers
Teagasc Business and Technology Advisors
Agri-consultants and Advisors
Agri Industry nationally and internationally

Practical implications for stakeholders:

Farmers need specific innovations and technologies that can be effectively implemented on their farms to improve grassland based productivity. The Inno4grass project was a novel approach to creating a collaborative space for grassland innovations which can contribute to the profitability of European grassland farms while preserving environmental benefits. Innovative models of collaboration between practice and science were developed and implemented through an international thematic network across eight European member states - Ireland, Germany, Sweden, Belgium, France, Poland, Italy and the Netherlands. This thematic network focused on improving mechanisms to enable the capture of innovative ideas from practice via case studies, networks and the internet. It established a multi-stakeholder collaboration and learning network for exchanging information, creating new knowledge and demand-driven innovation. It implemented large scale structures to persistently converge and sustainably deploy know-how and innovations. A number of new and improved grassland initiatives were developed from the network. A new information reservoir for knowledge dissemination in Europe was created called the Encyclopedia pratensis (<https://www.encyclopediapratenis.eu/>). The creation of individual grassland awards for grassland farming excellence was used to demonstrate best practise across project member states. A new grassland syllabus for grassland students, advisors and the wider industry was created and published as part of this thematic network. All of the initiatives will assist in the better development of grasslands in Europe.

Main results:

- A new information reservoir for knowledge dissemination in Europe was created called the Encyclopedia pratensis - <https://www.encyclopediapratenis.eu/>
- Over the course of the project 170 Individual farmer interviews, 144 Practise-Science meetings and 85 farmer case studies were developed across project member states. All this data is now available in the information reservoir
- Individual grassland awards for grassland farming excellence were established and used to showcase best practise in grassland across project member states.
- A new grassland syllabus for grassland students, advisors and the wider industry was published and is available widely

Opportunity / Benefit:

Dedicated innovations for the improvement of grassland performance and their effective implementation in practice are urgently required to maintain the viability of grassland-based farming across Europe. Interactive innovation models fostering knowledge exchange between practice and science have proven to facilitate such innovations; some of these initiatives were adopted in this project. Usable knowledge is more likely

created jointly by researchers and practitioners; an understanding of what works and why is gained through an interactive construction and sharing of knowledge that involves researchers and practitioners (farmers, advisors, etc.) to combine generalized and previously tacit knowledge.

Collaborating Institutions:

Teagasc project team: Dr. Michael O'Donovan (PI)
Mr . Fergus Bogue
Mr . John Maher

External collaborators: Mr. Arno Kause (Grünlandzentrum Niedersachsen/Bremen, Germany)

1. Project background:

European agriculture is facing tremendous challenges related to the rapid decrease of farm populations, competitiveness on open markets and the preservation of natural resources and on finite areas. Grasslands, which are highly significant for nature conservation, often face land-use competition with arable cropping, urbanization and other uses. Farmers need dedicated innovations to improve grasslands economic performance and their effective implementation in practice. This requires co-creation of knowledge between researchers and farmland practitioners, as was broadly pointed out by the European Commission. The Inno4grass project was a novel approach creating a collaborative space for grassland innovations contributing to profitability of European grassland farms while preserving environmental benefits. Innovative models of collaboration between practice and science were enabled by an international thematic network across eight European member states. The methodology serves to collect farmers' innovative ideas and to stimulate collaboration among various stakeholders (farmers' groups, extension services, education and research) including cross-border collaborations, where grassland-related knowledge was made available for local conditions. The interactive innovation model fostered knowledge exchange and established a farmland-specific Information Management System. The aim was to stimulate a renewed, collaborative innovation culture for EU grasslands. The methods were conceptualised and put into practice by the Thematic Network project Inno4Grass funded under Horizon 2020.

2. Questions addressed by the project:

This EU thematic network project Inno4Grass (www.inno4grass.eu) was an example of a conceptual framework which stimulated grassland innovation through collaborative knowledge transfer. Inno4Grass, aimed to bridge the gap between practice and science communities to ensure the implementation of innovative systems on productive grasslands and to increase the profitability of European grassland farms and to preserve environmental values.

3. The experimental studies:

Inno4Grass had three project areas:

1: Enabling the capture of innovative ideas from practice via case studies, networks and internet.

This specific objective aimed to create new methodologies for effectively tapping Europe's grassland innovation reservoir by identifying innovative farmers and by creating an international network of Facilitator Agents that initiated discussions on innovation in a participatory approach using electronic discussion groups and farmer's networks and fostering the cross-border flow of information. A quick scan of innovative practices or ideas in a short time complemented by interviews and case studies contributed significantly to capturing huge quantities of innovations related to grassland.

Capturing and quick scanning of innovative ideas from practice was made through farm portraits and case study farms. An inventory of 170 farm portraits published in English and in most local languages providing a vast set of quantitative data associated to these farms was made. Farm data on 85 case studies were captured and analysed. A network of 16 Facilitator Agents (FA) was created and trained during the project term by dedicated training sessions and exchanges of experiences made. A report on best practices reflects on the according experiences made.

2: Establishing a multi-stakeholder collaboration and learning network for exchanging information, creating new knowledge and demand-driven innovation

One of the inherent premises of the European Innovation Partnership 'Agricultural Productivity and Sustainability' (EIP-AGRI) is a high innovation potential through the exchange and collaboration between various stakeholders. This specific objective of Inno4Grass targeted a multi-actor collaboration between practice, technology and research for scanning, sharing and synthesising best practices as well as research results. A well-defined set of actions in the project created the space for an innovation culture exploring the potential of innovations for Europe's agricultural grasslands.

In total 144 discussion (practice science) group meetings were conducted during the project term bringing

together various actors from practice, science and other sectors of the national grassland AKIS and analyzed important innovations. Multi-stakeholder collaboration and learning network were initiated, both in science-practice meetings and exchange of information between actors. The existing innovation brokering systems in Europe were inventoried and evaluated. A questionnaire among more than 1000 European grassland farmers provided insight in drivers and barriers for grassland innovation. A broad experience exchange took place through face-to-face meetings, through electronic discussion groups as well as through several bilateral meetings and cross-border visits.

3: Implementing large scale structures to persistently converge and sustainably deploy know-how and innovations

The knowledge capital and innovation was consolidated and operationalised for a large audience among farmers, rural advisors and other actors in the farmers community by an international web-based Information Management System; broad-ranging and easily accessible dissemination materials such as practice abstracts defined in EIP-AGRI format, videos, (web-based) tools and syllabus, targeted to end-users (in particular farmers) including Operational Groups (OGs); the set-up and conduction of dedicated education and training programmes; the introduction of know-how and innovations in Grassland for OGs (both OGs whose establishment was stimulated by Inno4Grass and other emerging OGs connected to the theme of Inno4Grass).

4. Main results:

There were six individual work packages across this Thematic Network. A summary of the main results is provided below.

- 170 Individual farmer interviews were completed
- 144 Practise science meetings (discussion group meetings) were undertaken across the eight member states over the three years
- 85 farmer case studies across the eight member states were completed and are available here: <https://www.encyclopediapratenis.eu/product-category/inno4grass/case-study/>. These farm descriptions constitute a unique information source on innovations in grassland systems in the 8 project member states. They covered the large geographical range of the Inno4Grass project, from Ireland to Poland on a West-East axis and from Sweden to Sardinia on a North-South axis. Most systems are located in plains and hills of boreal, Atlantic, continental and Mediterranean climates. Others are located in mountain areas, especially in continental and alpine climates.
- Creation of IMS integrated Management structure for grassland infrastructure - <https://www.encyclopediapratenis.eu/>
- Listing and adaptation of the use of grassland tools and methods to improve grassland management systems
- Establishment of new grassland syllabus publication for young grassland farmers, students and advisors
- Establishment of grassland farmer awards across the participating member states to promote grassland excellence. Video's of the award winners are available on YouTube and can be accessed here:
 - Germany: https://youtu.be/CzyE9_gsKOW
 - Italy: https://youtu.be/eMCXag_Nkrg
 - France: <https://youtu.be/qKaQ7OASguE>
 - Poland: https://youtu.be/rX5tPQm_KnQ
 - Ireland: <https://youtu.be/MV7sEx5U0LE>
 - Sweden: <https://youtu.be/4wtBpQtEuwl>
 - The Netherlands: https://youtu.be/q1rF6_k7zto
 - Belgium: <https://youtu.be/zi7VhSokvY8>

5. Opportunity/Benefit:

The main opportunity of this work is that farmers and the wider industry can benefit from setting up proper dissemination structures with regard to grassland knowledge dissemination. A number of very good and useful initiatives were implemented in this work including the recruitment and training of facilitator agents, the setting up of an IMS (Integrated Management structure - Encyclopedia Pratenis), creation of a new grassland syllabus and the highlighting of high performing grassland farmers through the grassland awards network. One clear finding from the work is to better integrate 'Lighthouse farmers' in the dissemination of knowledge transfer for the future.

6. Dissemination:

International conferences

Presented at many international conferences, invited and contributed, such as the European Grassland Federation and project conference in Hamburg.

Open Day

Presented at all Moorepark, Grange, Johnstown and Athenry open days.

Farmer discussion groups

Discussed at many farmer discussion groups and at advisor in-service training, Inno4grass was part of the Grass10 program, through the funding of one of the Grass 10 advisors.

Press

Grass10 newsletters, results regularly presented weekly, through social media forums (grass10 newsletter, twitter etc).

Main publications:

Krause A, Becker T, Feindt, P.H, Huyghe C, Peeters A, Van den Pol-van Dasselaar, A. O'Donovan M. (2018) Sustainable European grassland farming with Inno4Grass: an infrastructure for innovation and knowledge sharing. In Proceedings EGF, Grassland Science In Europe Vol 23 Cork 2018 pp925-936.

Maher J. and Bogue F. (2018). Grass10 an extension campaign to improve the level of grass production and utilisation. In Proceedings EGF, Grassland Science In Europe Vol 23 Cork 2018 pp956-958.

Popular publications:

Grass 10 weekly Newsletter – disseminated to wider grassland industry weekly 114th edition.

Maher J. Bogue, F and Douglas J. (2019). Grass10 campaign. In Moorepark open day (2019), Irish dairying growing sustainably, pp62-63.

Grassland use in Europe is now available on line:

<https://www.quae-open.com/produit/123/9782759231461/grassland-use-in-europe>

7. Compiled by: Dr Michael O'Donovan
