Shared Innovation Space for Sustainable Productivity of Grasslands in Europe

Project Acronym: Inno4Grass

Project Number: 727368

Deliverable No. D2.1

Report of interviews on grassland innovations for each country consisting of 20-30 one-page portraits

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Content

Annexes

Interviews on grassland innovations presented in 170 two-page farm portraits

The deliverable required the fulfilment of several tasks:

- Defining innovations
- Identifying innovative farmers and innovations
- Designing a questionnaire
- Performing interviews of these farmers for detecting grassland innovations
- Designing the lay-out and presenting a synthesis in attractive two-page portraits
- Collecting all the portraits in one or two languages in all Inno4Grass teams

1. Defining innovations

After a literature study, the Inno4Grass team adopted the following definition of innovation with regard to grassland farm management (annex 1):

'Innovation in a grassland farm is something original which increases the effectiveness or efficiency of grassland farming management. Innovations are site specific: an innovation in one country can be common practice for years in another one. They can be technical, organisational or at service level.'

Technical and/or organisational innovations can be classified into three categories:

- **Innovation in the production techniques**. Examples: grassland management type, tools for grazed pasture management (herbometer and associated software), new grassland mixtures (plantain, chicory, etc.), grassland type combination, fence types, agroforestry, grazing types (short sward grazing, TechnoGrazing), milking robots and front and back wires, seasonal calving, mixed grazing, barn hay-drying, milking robot and grazing encouragement, traditional orchard and new grazing types, new techniques of water supply in grassland, out-wintering pad adapted to full-outdoor systems, grassland renovation methods, etc.
- **Innovation in the product**. Examples: omega3-rich butter, grass fed meat or dairy products, hard cheese in relation with the forage conservation type, etc.
- **Innovation in organisation** (e.g. partnership, value chain). Examples: hay fed milk, grass fed labels and trademarks, (specifications, registration system), farmer organisation for grassland renovation systems, grassland information exchange platform, etc.

Considering the overall objective of Inno4Grass[1], innovation can be developed all along the production, processing and marketing chain in farms, advisory services, research.

A guide for identifying innovative farms has been drafted (annex 1). This guide was commented and agreed on by all partners. It defines innovation and its different types, and describes farm selection criteria.

2. Identifying innovative farmers

On the basis of this guide, the selection of farmers has been done, as foreseen in the technical annex of the project, with the support of the following organisations:

- Chambers of Agriculture or other public services in charge of agriculture
- Agricultural NGOs: livestock breeder associations, Farmer's Union, advisory services
- Private sector: dairy factories, cooperatives, farmer's newspapers
- EU-supported development groups: Operational Groups and Local Action Groups (LEADER)
- Other existing development groups such as CETA (Centre of Agricultural Technical Studies) and existing national groups of innovative farms
- Experienced farmer's advisors.

About 200 innovative farmers were identified and contacted in the 8 countries of partners' project.

3. Designing a questionnaire

A standardised questionnaire was developed in an Excel sheet for collecting data in face-to-face interviews with farmers (annex 2). This table was discussed with task leaders and progressively improved.

This questionnaire includes two parts.

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[1] The overall objective is to bridge the gap between practice and science to ensure the implementation of innovative systems on productive grasslands to achieve profitability while providing environmental services. Environmental services refer to qualitative functions of natural non—produced assets of land, water and air (including related ecosystem) and their biota (OECD 2005; https://stats.oecd.org/glossary/detail.asp?ID=843). There are three basic types of environmental services:
(a) disposal services which reflect the functions of the natural environment as an absorptive sink for residuals,
(b) productive services which reflect the economic functions of providing natural resource inputs and space for production and consumption, and
(c) consumer or consumption services which provide for physiological as well as recreational and related needs of human beings.

The first part focuses on farm and farm environment characteristics: social data, farm type, ecological data, structure data, grassland management characteristics, and animal performance.

The second part, the most important one, describes the innovation with regard to the following topics: domains of innovation, short description of the innovation, farmer's strategy, added value (expected/obtained) of the innovation, reason why this innovation is working on the farm, main sources of information, expectations and needs with respect to grassland.

This questionnaire includes notably predefined answers to some questions, term definitions, multiple answer possibilities, and boxes for additional comments. A guide has been written for explaining the way to fulfil the questionnaire in order to avoid misunderstanding (annex 3).

The questionnaire was tested on at least one innovative farm per country and task leaders proposed again several improvements of the first versions on this basis. These improvements were related with the general structure of the interview form and on clearer term definitions for some questions. Task leaders' inputs were also very useful for collecting relevant data adapted to the diversity of European systems, for instance to Mediterranean and mountain systems.

When examining the results of the first interviews, it appeared that several innovative farmers did not develop a single innovation but tried to improve their production, product processing and marketing systems by several means by developing or adopting a coherent set of innovations. This motivated to include holistic questions in the final version of the survey for describing these farm system innovations.

A consent form has also been drafted for ensuring the respect of legal aspects with regard to the storage of personal data in the Inno4Grass database. This consent form was sent to several legal departments in the regions, countries and EC. Collecting the advices of these departments took time and delayed the start of surveys. A final version of the consent form has finally been adopted in all countries.

4. Performing interviews of these farmers for detecting grassland innovations

Innovative farmers were then contacted and appointments were agreed for organising face-to-face interviews. These surveys aimed at:

- collecting information on innovative practices
- replacing them into coherent farming systems thanks to the first part of the standardised questionnaire on structure parameters
- identifying farmer's expectations and needs

They included open questions on general functioning and innovations of the farm.

All data on each of the 170 farms of interviewed farmers are now available in Excel files in English.

The repartition of these interviews per country is shown in table 1.

Table 1. Repartition of interviews of innovative farmers per country.

Country	Farm types	Number of interviews
Belgium	Dairy, beef	20
France	Dairy, beef, sheep	30
Germany	Dairy, beef	20
Ireland	Dairy, beef	20
Italy	Dairy, sheep	20
Poland	Dairy	20
Sweden	Dairy	20
The Netherlands	Dairy	20
Total		**170**

5. Designing the layout and presenting a synthesis in attractive two-page portraits

A standardized layout has been defined for drafting farm portraits (annex 4). It includes several boxes to be fulfilled, and symbols for the main characteristics of the farm (e.a. dairy, beef, goat) and innovation types. The layout was designed for being attractive for farmers and easy to read and to understand.

Symbols were adopted for facilitating fast reading of the portraits. They concern the following topics:

- Country
- Innovation domain
    - Machinery, tools
    - Forage mixture
    - Forage conservation technique
    - Grazing management system
    - Legume management
    - Animal feeding management
    - Animal type (breed)
    - Product processing
    - Marketing
    - Farm system
    - Landscape

- Animal type:
  - Beef cattle
  - Dairy cattle
  - Meat sheep
  - Dairy sheep
  - Dairy goat

All portraits are available in English (170 portraits) and in most national languages of interviewed farmers.

They are published in pdf format. These pdf files are placed on the public web site of the project (https://www.inno4grass.eu/en/dissemination) and also in the IMS.

An example is shown below.

6. Collecting all the portraits in one or two languages in all Inno4Grass teams

Coordinating the 20 Inno4Grass teams was not an easy task because of the importance and the diversity of team numbers, the number of steps that were necessary for collecting all the data of the portraits and the participatory approach adopted by the project.

Importance and the diversity of team numbers:

The 20 Inno4Grass teams are located in very different bio-geographic zones: Boreal, Continental, Atlantic, Mediterranean, and Alpine. Soils, climates and vegetation types are thus very diverse. Moreover, the teams are located in 8 different countries with different agricultural traditions, history, agricultural structures, legislations, markets, etc. This implies that farmers' constraints, assets, production and marketing possibilities are notably very different. The questionnaire had thus to take this diversity into account by adequate questions.

Number of steps that were necessary for collecting all the data of the portraits:

A methodology for the following steps had to be defined and the work had to be coordinated between partners:

1. Identifying innovative farmers
2. Defining innovations
3. Designing a questionnaire
4. Performing interviews of these farmers for detecting grassland innovations
5. Designing the lay-out and presenting a synthesis in attractive two-page portraits
6. Collecting all the portraits in one or two languages in all Inno4Grass teams

Making sure that the portraits were fulfilled in two languages in a harmonised format took a lot of energy and a considerable amount of time.

Participatory approach adopted by the project:

At each step of the work, the opinion of partners was collected and taken into account. This slowed down the progress of tasks but ensured a high quality work.

Interactions between partners occurred by email, by skype and by some face-to-face meetings. These face-to-face could sometimes happen during the general meetings of the projects but some specialised meetings were specially dedicated to the drafting of the methodology. These last meetings were organised in Brussels.

When the portraits were drafted they were sent to farmers for asking their approval of the text before it was published on the web site. Collecting all the 170 agreements by email was a particularly long step since not all farmers are regularly connected on the web.

All the portraits are now placed on the web site of Inno4Grass and the deliverable is thus publicly available. It constitutes a unique and very original collection of innovative farms that are among the best farms in Europe.

All compiled farm portraits are available here:
Inno4Grass Project Website:
https://cloud.inno4grass.eu/index.php/s/mrEdjGL0LuVAzo0#pdfviewer
Encyclopedia Pratensis:
https://www.encyclopediapratensis.eu/wp-content/uploads/2018/11/
I4G-170FarmerPortraits_20181029-1.pdf

Example of farm portrait

A coherent system for reducing costs and increasing income

Velghe Jean-Marie and Arnaud

1 Description of the innovation

Innovations are numerous and holistic. A no-till system has been adopted on arable land twenty years ago, cover crops are now sown between each main crop and FYM compost used for increasing soil organic matter content. A rotational grazing system (one-day per plot) has been recently implemented on permanent grassland after over-sowing of white clover. Inorganic N fertilization has been abandoned on grasslands. Temporary grasslands replaced green maize cropping and soybean feed purchase. They are based on grass/legume mixtures for making hay. Hay drying is finished in barn; its quality is very high. Grass silage is not used anymore. Grazed grass and hay are only complemented by feed produced on the farm: cereals and cereal/pea mixture.

Holstein Friesian cows are progressively bred with Normande bulls for creating a pure Normande herd by in-breeding for a higher green forage intake and better cheese aptitude. The free-stall cow barn is bedded by a suspended straw shredder. Cows are milked by a milking robot. Milk is processed into hard cheese and sold locally in the new farm shop.

Working conditions, Economic results, Contacts with consumers

Low product prices and high input prices induced a willingness to change. Forage self-sufficiency has been implemented for economic reasons but also for improving dairy cow health. Milk quality was improved for producing a quality different from industrial products. The strategy consists in coming back to the essence of the ancient system: use of local resources and insertion of farmers into local communities. The industrial system worked for a while but because of economic crises, the return to the ancient model combined with new techniques and knowledge (milking robot, machinery, no-till system,...) is considered as necessary.

2 | Farm description

ENVIRONMENT

Soil type: Loam

Climate: Temperate oceanic

Altitude: 50 m asl

Slope: 3%

GRASSLAND MANAGEMENT

Grazing: Yes

Grazing management type: Rotational grazing (one day per plot)

Barn hay drying

Hay produced on temporary grasslands in a 4-cut per year cutting regime

STRUCTURE

Annual Work Unit: 3

Agricultural Area: 100 ha UAA

Permanent grassland area: 18 ha

Temporary grassland area: 27 ha

Annual crop area: 55 ha

Breed: Holstein Friesian progressively crossed with 'Normande' breed.

Stocking rate: 2.2 LU per ha of grassland area

ANIMAL PERFORMANCE

Dairy production: 6,500 l/cow*year but milk quality is at least as important as yield for making cheese

WHY IT IS WORKING?

The system is working because it is coherent and innovations make sense. It is a natural approach based on the respect of nature (plant, animals, people).

A HOLISTIC CHANGE FOR HIGHER SELF-SUFFICIENCY AND INCOME

Annex 1. Discussion paper – Identifying Innovative Farmers and Innovations

Inno4Grass' work package 2 is about "Capturing Innovation Capital from Practice". This starts with task 2.1: Identifying Innovative Farmers. This document is the first step in the identification process as it describes the:

1. Innovation definition: What do we consider to be innovative in grassland management?
2. Selection criteria: What do we need to know about the innovation and the participating farmers?

This paper is discussed with, and completed by, all Inno4Grass partners.

1. Innovation definition

There are many different definitions on innovation. Edison *et al.*[2] found over 40 definitions in a survey of literature on innovation. After analysis of the existing definitions whether these definitions comprehensively cover all the dimensions of innovation, they found the following definition to be the most complete:

Innovation is: production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome.

This definition was given by Crossan and Apaydin and it builds on the Organisation for Economic Co-operation and Development (OECD) manual's definition. Edison *et al.* also found two interesting dimensions of innovation including: degree of novelty (i.e. whether an innovation is new to the firm, new to the market, new to the industry, and new to the world) and type of innovation (whether it is process or product/service innovation).

Research from Johannessen *et al.*[3] *(Innovation as newness: what is new, how new, and new to whom?)* shows that the definition of innovation depends on the person who interprets the specific innovation. Is the innovation new for the user (market), the maker (organisation) or the collective. Is it only an innovation when it never existed before?

The partners of Inno4Grass adopted the following definition of innovation:

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[2] Edison, H., Ali, N.B., & Torkar, R. (2013). "Towards innovation measurement in the software industry". *Journal of Systems and Software* 86(5), 1390–407. Available at: http://www.torkar.se/resources/jss-edisonNT13.pdf

[3] Johannessen, J., Olsen, B. & Lumpkin, G.T. (2001) Innovation as newness: what is new, how new, and new to whom? *European Journal of Innovation Management*, 4:1, 20–31.

Innovation in a grassland farm is something original which increases the effectiveness or efficiency of grassland farming management. Innovations are site specific: an innovation in one country can be common practice for years in another one. They can be technical, organisational or at service level.

Technical and/or organisational innovations can be classified into three categories:

- **Innovation in the production techniques**. Examples: grassland management type, tools for grazed pasture management (herbometer and associated software), new grassland mixtures (plantain, chicory, etc.), grassland type combination, fence types, agroforestry, grazing types (short sward grazing, TechnoGrazing), milking robots and front and back wires, seasonal calving, mixed grazing, barn hay-drying, milking robot and grazing encouragement, traditional orchard and new grazing types, new techniques of water supply in grassland, out-wintering pad adapted to full-outdoor systems, grassland renovation methods, etc.
- **Innovation in the product**. Examples: omega3-rich butter, grass fed meat or dairy products, hard cheese in relation with the forage conservation type, etc.
- **Innovation in organisation** (e.g. partnership, value chain). Examples: hay fed milk, grass fed labels and trademarks, (specifications, registration system), farmer organisation for grassland renovation systems, grassland information exchange platform, etc.

Considering the overall objective of Inno4Grass[4], innovation can be developed all along the production, processing and marketing chain in farms, advisory services, research. A brand new innovation at farm level, can be considered not innovative by researchers because something was invented years ago but just not implemented in practice.

Every country should thus select innovations that are expected to be useful for its own farmers and, next to that, are supposed to be interesting for farmers in other EU-countries. If the innovation seems to be very promising, realistic and useful, the farm could be used for the interviews and even become a case study farm.

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[4] The overall objective is to bridge the gap between practice and science to ensure the implementation of innovative systems on productive grasslands to achieve profitability while providing environmental services. Environmental services refer to qualitative functions of natural non—produced assets of land, water and air (including related ecosystem) and their biota (OECD 2005; https://stats.oecd.org/glossary/detail.asp?ID=843). There are three basic types of environmental services:
(a) disposal services which reflect the functions of the natural environment as an absorptive sink for residuals,
(b) productive services which reflect the economic functions of providing natural resource inputs and space for production and consumption, and
(c) consumer or consumption services which provide for physiological as well as recreational and related needs of human beings.

2. Selection criteria

We are looking for <u>innovations conceived and or implemented by innovative farmers</u>. Criteria of innovation identification should fulfil at least the following characteristics:

- an innovation that helps to achieve profitability while providing environmental services,
- an innovation should be original and effective,
- an innovation should be technical and/or related with management (production techniques, product, organisation),
- an innovation should have a good perspective for widespread diffusion,
- an innovation that can be adapted to sheep, beef or dairy farms.

Criteria of innovative farmers identification are:

- a. willingness to tell about his innovation,
- b. communicative (necessary for interviewing, film and photography),
- c. agrees to share his business data (when they are selected for the case studies).

In the farm identification process, we should justify why a selected farm was chosen. Why is it innovative according to the above criteria?

Annex 2. Excel sheet for collecting data in face-to-face interviews with farmers

Inno4Grass   **Interview form**

1. Basic Farm description

Cells to be filled in

Social data

Farmer's name and/or farm name	
Age of the farmer (years)	
Geographical location	
Annual work units (AWU)	

Farm type

Farm type	

Ecological data

Main soil types	
Climate type	
Average altitude (m a.s.l.)	
Average slope (%)	
Dominant grass and legume species in permanent grassland vegetation (5 species maximum all vegetation types considered)	
Dominant grass and legume species in temporary grassland vegetation (5 species maximum all vegetation types considered)	

Structure data

Agricultural area (ha UAA)	
Main forage area (ha)	
Arable land area (ha)	
Permanent crop area (ha)	
Permanent grassland area (ha)	
Longevity (only for permanent grassland)	
Temporary grassland area (ha)	
Rangeland areas (Mediterranean, high altitude, heath land, ...) (ha)	
Other grazing area (cereals stubbles,...) (ha)	
Other green forage area (green maize, silage maize, fodderbeet...) (ha)	

Main animal types					

Number of animals (heads) per animal type	calf/lamb/kid	heifers/young females	young males	cow/ewe/goat	bull/ram/buck
Dairy cattle					
Beef cattle					
Dairy sheep					
Meat sheep					
Dairy goat					
Meat goat					
Other important animal type					
Other important animal type					
Total Livestock unit (LU)					

Breed name/type per animal type	dairy	beef	sheep	goat	mixed orientation
Breed type 1					
Breed type 2					
Breed type 3					
Breed type 4					
Breed type 5					
Cross breed 1					
Cross breed 2					
Average stocking rate (agriculture area) (LU/ha UAA)					
Average stocking rate (main forage area) (LU/ha)					
Average stocking rate (grassland area) (LU/ha)					

Grassland management

Exclusively grazed grassland area (% total grassland area)	
Exclusively mowed grassland area (% total grassland area)	
Number of cuts per year (for exclusively mowed area only)	
Mixed-use grassland area (% total grassland area)	
Grazing (yes/no)	
If grazing, grazing management type for cow/ewe/goat	
Length of grazing period (month/year)	
Forage conservation type	

Average rate of bought roughage (green forage) (%)	
Average fertilization rate of exclusively grazed areas and mixed-use areas (kg organic and inorganic N/ha)	
Average fertilization rate of exclusively mowed area (kg organic and inorganic N/ha)	

Animal performance

	cow		sheep		goat
Milk production per head (l/year/dairy animal)					
	fattening bull	fattening heifer	fattening calves	fattening lamb	fattening goat
Average age when slaughtered (month)					
Average carcass weight (kg)					
Average european classification of the carcass (EUROP)					

2. Description of the innovation

Domains of innovation	
Short description of the innovation	
Farmer's strategy	
Short description of the implementation phase work (achievements, failures, driving forces, constraints, results)	
Added value (expected/obtained) of the innovation	
Reason why this innovation is working on the farm?	
Comments	

3. Inspiration for innovation

Main sources of information	

4. Expectations and needs with respect to grassland

What other problem should be solved for this specific farmer?	
What tools does the farmer use for his grassland management? (software, herbometer, grazing calendar etc.)	
Does the farmer have suggestions for improvement of the specific tool?	
Does the farmer have suggestions on research topics?	

Annex 3. Interview guide

The interview has the overall objective to get a short but precise overview of the innovation that has been identified. The first part focuses on farm and farm environment characteristics. The second part, the most important one, describes the innovation.

Thus, if you are not able to collect all detailed data about the basic farm information, don't loose too much time on this. The most important part of the survey is the one about the innovation description. We want to show the logic of the innovation, why the farmer created it. Is it a one-off innovation or is he rethinking completely his farm system?

This guide intends to better explain what kind of answer is wanted for each question.

A piece of information about the interview form:

- Calculated cells are just there as an indication to help you identify a big mistake in the numbers given by the farmer, they do not replace it.
- Some questions (in blue) have a restricted number of predefined answers in order to facilitate the analysis afterward. Please choose the most relevant answers.
- For some questions, you have to select the answer from a list of pre-established answers in order to facilitate the filling and the analysis.
- Data collected about the farm should reflect the average per year (especially for numbers of animals, main type animals…)
- For the questions with a list of answers proposed, if you choose the answer "Other", please specify in the next cell of the J column.
- Areas that are used for "exercise" where animals ingest negligible quantities of grass are not to be counted in grazing areas. Moreover, as there is no interest regarding grassland in these areas, grazing for 'exercise' is not considered as a type of grazing.

1. Basic farm description

Social data

Farmer's name and/or farm name	In order to identify the farm
Age of the farmer (years)	To make farmer's typology possible with regard to this criterion
Geographical location	Indicate the department, region or province and country in order to have a general idea of the farm location. Precise address should be kept confidential at national level.
Annual work units (AWU)	How many people in AWU are working on the farm? If a father and his son are both spending full-time on the farm, you need to count 2 AWU.

Farm type

Farm type	Choose among the list the farm type. The lists is from the European classification

Ecological data

Main soil types (by decreasing order of importance)	For each line choose among the list and by decreasing order of importance the soil types presents on the farm
Climate type	Choose among the list the climate type that correspond the most to the farm
Altitude (m a.s.l.)	Indicate the average altitude of the farm in meters above seal level
Slope (%)	Indicate the average slope of the farm
Dominant grass and legume species in permanent grassland vegetation (5 species maximum all vegetation types considered)	To help you distinguish permanent, natural, agriculturally-improved permanent and temporary grassland, you can read "Grassland term definitions and classifications adapted to the diversity of European grassland based systems" PEETERS A. et al., 2014
Dominant grass and legume species in temporary grassland vegetation (5 species maximum all vegetation types considered)	As much as possible, try to give 5 species for each grassland type.

Structure data

Agricultural area (ha UAA)	Indicate here the total agricultural area of the farm. The results calculated in cell J27 is just an indication.
Main forage area (ha)	Indicate here the total main forage area of the farm. The results calculated in cell J28 is just an indication.
Arable land area (ha)	Lands that can be sown/cropped with annual crops and temporary grasslands
Permanent crop area (ha)	Orchards, vineyards,...
Permanent grassland area (ha)	Refer to Grassland term definitions and classifications adapted to the diversity of European grassland based systems, PEETERS A. et al., 2014
Rangeland	Mediterranean, high altitude, etc
Longevity	Choose among the list the average longevity of the permanent grassland areas of the farm
Temporary grassland area (ha)	Refer to Grassland term definitions and classifications adapted to the diversity of European grassland based systems, PEETERS A. et al., 2014
Other grazing area (such as heath, estives…) (ha)	
Other forage area (to produce corn forage, beetroot…) (ha)	
Main animal types	Choose among the list the main animal types present on average on the farm. You can indicate 1 to 5 different animal types.
Number of animals (heads) per animal type	For each animal type, indicate in the adequate column the corresponding numbers of animal. The difference between young females and cow/ewe/goat is that they

	already calved or lambed.
Total Livestock Unit (LU)	If the farmer knows the exact number, fill it in. If he doesn't, you can let it blank
Breed name/type per animal type	Indicate the name of the breed or the name of the cross breed in the adequate column.
Average stocking rate (agriculture area) (LU/ha UAA)	If necessary, use existing charts for converting
Average stocking rate (main forage area) (LU/ha)	animal numbers in LU, in particular those
Average stocking rate (grassland area) (LU/ha)	published in your country

Grassland management

Grassland exclusively grazed area (% total grassland area)	
Grassland exclusively mowed area (% total grassland area)	
Number of cuts per year (for exclusively mowed area only)	Indicate here the average number of cuts taken per year on exclusively mowed plots
Mixed use grassland area (% total grassland area)	Grassland that are alternatively grazed and mown
Grazing (yes/no)	
If grazing, grazing management type for cow/ewe	Choose among the list the grazing management type used on the farm. You can indicate 1 to 3 different grazing management types. Please indicate them by decreasing order of importance.
Length of grazing period (month/year)	
Forage conservation type	Choose among the list the forage conservation type used on the farm. You can indicate 1 to 3 different forage conservation types. Please indicate them by decreasing order of importance.
Average rate of bought roughage (green forage) (%)	
Average fertilization rate of exclusively grazed areas and mixed areas (kg organic and inorganic N/ha)	
Average fertilization rate of exclusively mowed area (kg organic and inorganic N/ha)	

Animal performance

Milk production per head (l/head/dairy animal)	
Average age when slaughtered (month)	
Average carcass weight (kg)	
Average European classification of the carcass (EUROP)	

2. Description of the innovation

Domains of innovation	Choose among the list the domains that innovation concerns. You can indicate 1 to 3 different domains. Please indicate them by decreasing order of importance.

Short description of the innovation	In a few lines, describe the innovation and why it is innovative.
Reason that get the farmer to create it	Choose among the list the main reason
Added value (expected/obtained) of the innovation	Choose among the list the added value expected/obtained. You can indicate 1 to 3 different added values. Please indicate them by decreasing order of importance.
Reason why this innovation is working on the farm?	Try to explain shortly
Comments	Here you can add some piece of information that you find relevant and could not indicate in any of the other questions

Inspiration for innovation

Main sources of information	Choose among the list the main sources of information used by the farmer. You can indicate 1 to 3 different sources. Please indicate them by decreasing order of importance.

Expectations and needs with respect to grassland

|	
What other problem should be solved for this specific farmer?	The answer could concern any domain listed in 2.
What tools does the farmer use for his grassland management (Software, herbometre, grazing calendar etc.)?	
Does the farmer have suggestions for improvement of the specific tool?	
Does the farmer have suggestions on research topics?	

Annex 4: User guide for format portrait

For those who can, we use the Microsoft Publisher document called "InnovativeFarmer.pub".

For those have not Publisher, on the next pages you will find the portrait format.

Please describe the innovation, explain why it is innovative and show it with a picture if you can on the first page. Fill in the added values and the farmer's strategy.

And give relevant data regarding the environment, the grasslands management, the structure (at least the AWU) and the animal performances on the second page. Fill in the "why it is working".

Use your country shape (see page 3 in the Publisher document):

France	Germany	Ireland	Belgium	The Netherlands	Poland	Italy	Sweden
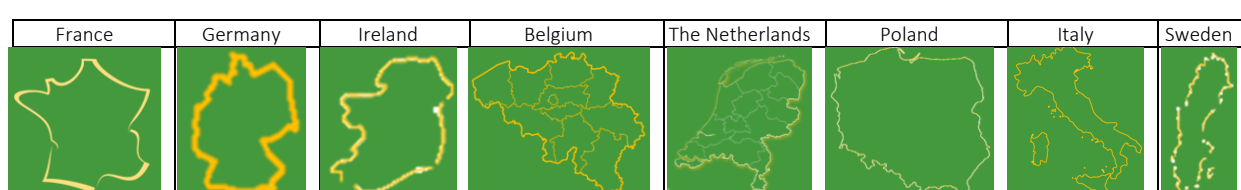
Use the domain(s) of innovation (see page 3 in the Published document):

Machinery, tools

Animal type (breed)

Forage mixture

Product processing

Forage conservation technique

Marketing

Grazing management system

Farm system

Legume management

Landscape

Animal feeding management

Use the main animal type(s) (see page 3 in the Publisher document):

BEEF   MILK   SHEEP   MILK   MILK

Hook, short description of the innovation (5-6 words)

Farm name/farmer's name

1	**Description of the innovation**

Describe the innovation and explain why this is innovative

Picture

Copy and paste the « added value(s) »

Indicate here the farmer's strategy

Copy and paste here the « short description of the implementation phase work »

2 Farm description

ENVIRONMENT

Indicate here some basic farm descriptors that are relevant for the innovation.

Soil types

Climate

Altitude

Slope

…

GRASSLAND MANAGEMENT

Grazing : Yes/No

Grazing management type

…

STRUCTURE

Indicate here some basic farm descriptors that are relevant for the innovation.

Annual Work Unit

Agricultural Area: 000 ha UAA

Precise the relevant areas (forage, temporary grasslands,…)

Breeds if relevant

Stocking rate...

…

ANIMAL PERFORMANCE

…

WHY IT IS WORKING?

Indicate here why the innovation is working on that particular farm