Shared Innovation Space for Sustainable Productivity of Grasslands in Europe

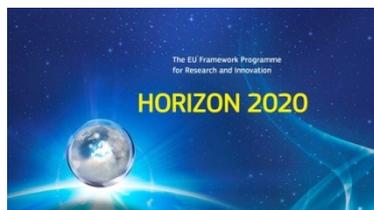Project Acronym: Inno4Grass

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Report on drivers for innovation and barriers to innovation in grasslands

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Content

Introduction

In Inno4Grass, practical know-how on grassland-based farming systems is combined with scientific research and development results in a participatory approach. This combination of integrating current explicit knowledge of farmers, advisors and researchers with new knowledge by active interactions between farmers, advisors and researchers is used to create a flow of innovation on grasslands and grassland-based farming systems in Europe.

Obviously, individual grassland farmers will have different opinions on innovation on grasslands. To stimulate innovations in grassland-based farming systems, it is important to get insight into the drivers for innovation and the barriers to innovation on grassland. Potential drivers can be used to stimulate innovations and actions can be defined to overcome potential barriers.

The project Inno4Grass therefore aims to identify potential drivers for innovations and potential barriers to innovations for grassland farmers in Europe. The attitude of farmers towards innovations in grasslands is studied using the experiences of famers in case studies of Inno4Grass. In the case studies the usefulness and applicability of innovations become clear, so they are followed with respect to drivers for innovation and barriers to innovation. Furthermore, a questionnaire has been issued and sent to grassland farmers in the eight partner countries of Inno4Grass to obtain insight in potential drivers and barriers. This report describes the main results of this questionnaire.

Set-up of the questionnaire

A on-line questionnaire on innovation on grasslands was developed in seven languages: Dutch, English, French, German, Italian, Polish and Swedish, using SurveyMonkey (www.surveymonkey.com). The questionnaire (Appendix 1) studied the attitude of farmers with respect to innovation on grassland. The partners of Inno4Grass actively spread the questionnaire to tens of thousands of grassland farmers in different countries throughout Europe (Figure 1), either via direct mail or via social media. The countries where the questionnaire was spread were the partner countries of Inno4Grass:

- Belgium: Be
- France: Fr
- Germany: Ger
- Ireland: Ire
- Italy: It
- Poland: P
- Sweden: S
- the Netherlands: NL

The questionnaire was available from winter 2017/2018 onwards and closed at the end of June 2018.

Figure 1: Countries in Europe where the questionnaire has been spread to grassland farmers.

Results

Description of respondents

Analyses of the results were done on answers of questionnaires that were filled completely. Only respondents with grasslands were included in the analyses. There were 1091 valid responses spread over the different countries. The number of responses was highest in the Netherlands with more than 50% of the total valid responses. Further information on the respondents is given in Table 1, where the number of valid responses, the average grass area of the respondents (ha) and the main animal types on these grasslands (% of the specific country) can be found. Dairy cows were the most common animal type, followed by beef cattle. The percentage of dairy cows was especially high in the Netherlands and Germany. In Italy, grasslands were mainly used for sheep. The category 'other' included horses, pigs and buffalos (the latter especially in Italy), but also grasslands where the grass is harvested and sold and not used by any animals on the farm.

Table 1. Description of respondents per country: number of valid responses, average grass area (ha) and main animal type (% of all respondents per country).

	Number of valid responses	Average grass area (ha)	Dairy cows (%)	Beef cattle (%)	Sheep (%)	Goat (%)	Other (%)
Belgium	24	36	50	34	8	4	4
France	80	78	42	25	23	1	9
Germany	40	87	77	8	0	0	15
Ireland	93	66	47	37	12	0	4
Italy	52	130	13	17	35	8	27
Poland	125	23	49	33	2	2	14
Sweden	112	128	49	29	4	0	18
the Netherlands	565	53	98	0	1	0	1

The respondents were divided over different age categories. The majority of the responses came from the age category 46-55 years (Figure 2).
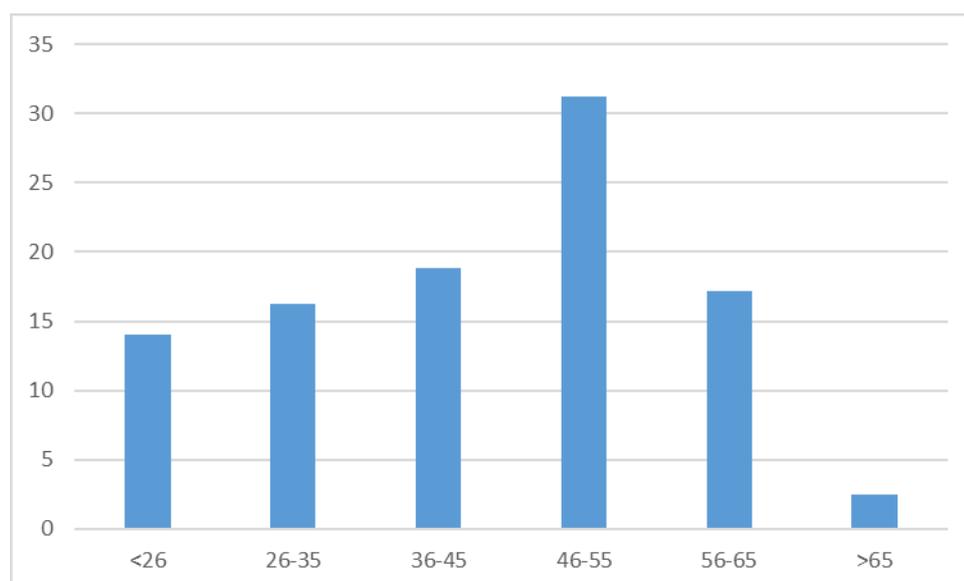

Figure 2. Age of respondents (% of total respondents)

Importance of innovations

Respondents were asked how important innovations were for them. This question was asked for three categories:

- innovations in general
- innovations in grasslands
- innovations in grazing

Results show that innovations were on average important to very important for the respondents (Figure 3). The score of the Netherlands, and to a lesser extent of Germany and Poland, was lower than the score of the other countries. Italy had the highest scores. In general, innovations in grazing were considered less important than innovations in grasslands. France was the exception since in France innovations in grazing were considered more important than innovations in grasslands.
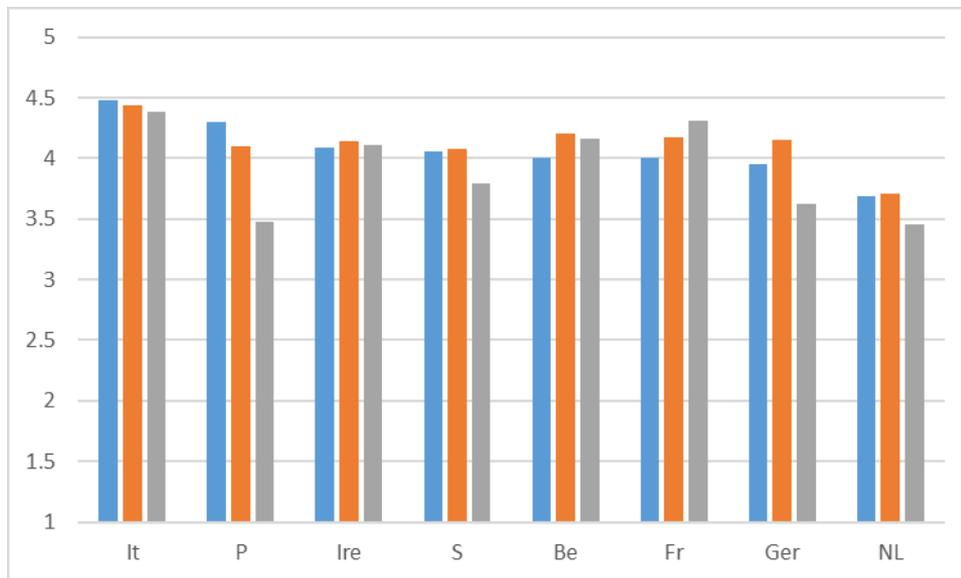

Figure 3. Average importance of innovations in general (blue bars), innovations in grasslands (red bars) and innovations in grazing (grey bars) according to respondents in eight countries on a scale of 1 (very unimportant) to 5 (very important).

Influence of people / items on decisions with respect to grasslands

Respondents were asked what influence different people/items have on their decisions with respect to grasslands. Figure 4 shows the % of respondents that considered different people/items either important or very important. The own values and norms of the respondents scored the highest, but image of the farm/the sector, advisors, consumers, customers and family were also considered to be important for decisions with respect to grasslands for more than half of the respondents.
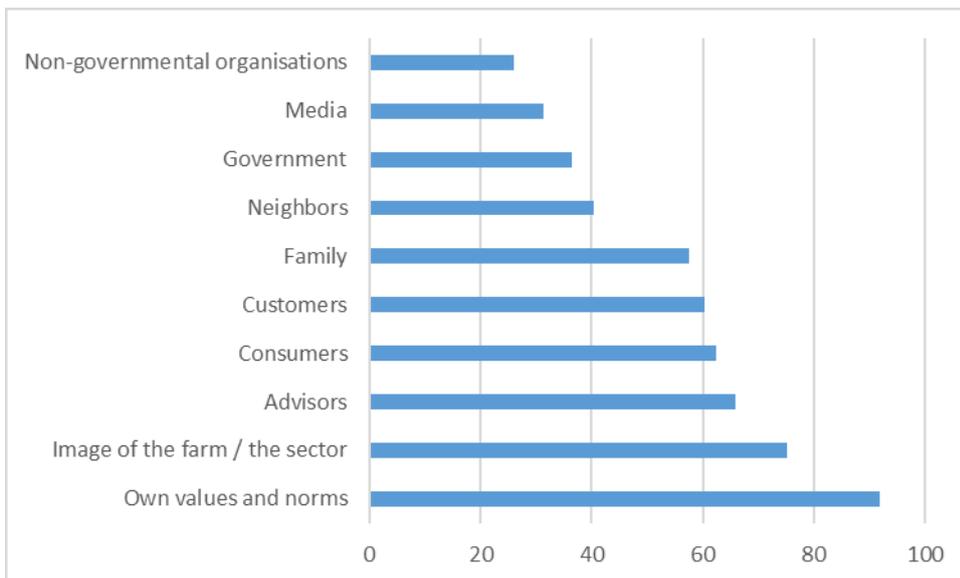
Figure 4. Influence of people/items on decisions with respect to grasslands (% of the respondents that scored the influence either important or very important).

There were differences between countries with respect to the influence of people/items. Figures 5, 6 and 7 show the results of the influence of people/items on decisions with respect to grasslands for each country. Own values and norms were consistently high in all countries. In general, the importance of people/items for decisions on grasslands was somewhat lower in the Netherlands and somewhat higher in Italy.
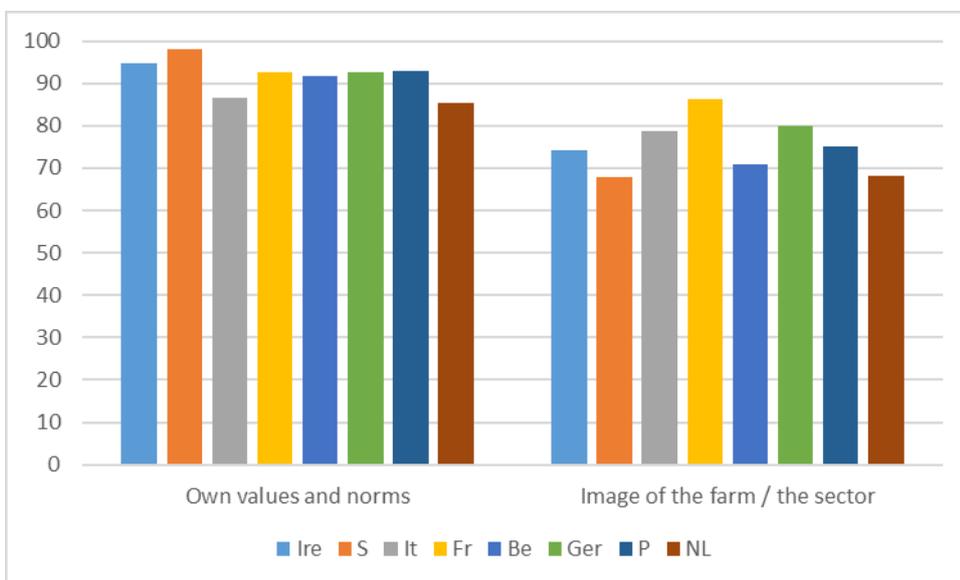

Figure 5. Influence of own values and norms and of image of the farm/the sector on decisions with respect to grasslands in eight different countries (% of the respondents per country that scored the importance as important or very important).
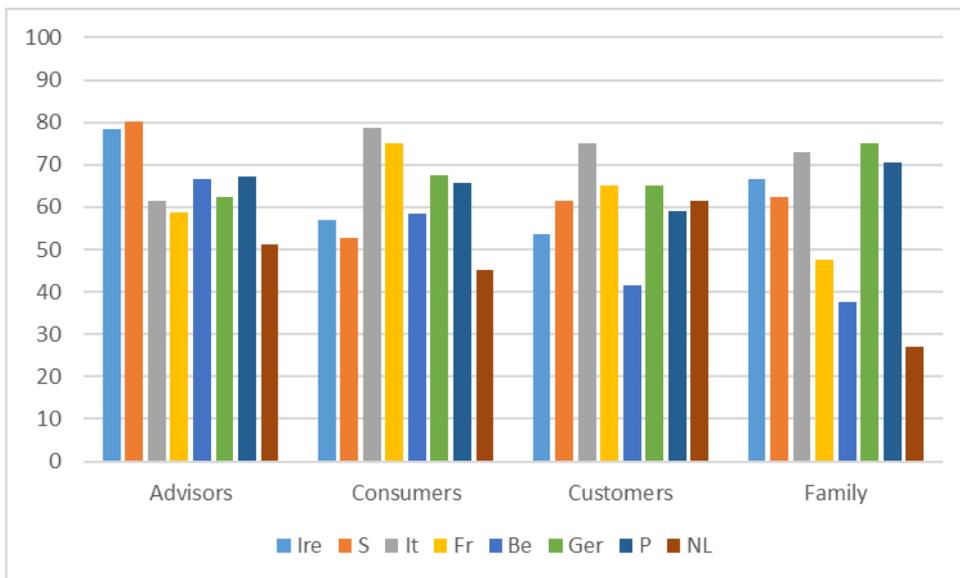
Figure 6. Influence of advisors, consumers, customers and family on decisions with respect to grasslands in eight different countries (% of the respondents per country that scored the importance as important or very important).
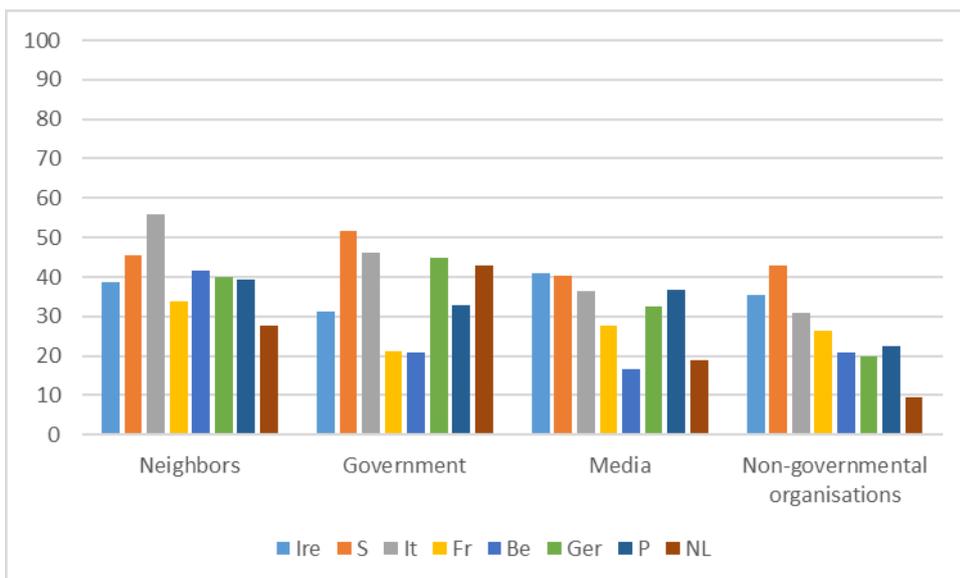

Figure 7. Influence of neighbors, government, media and NGO's (non-governmental organisations) on decisions with respect to grasslands in eight different countries (% of the respondents per country that scored the importance as important or very important).

Possibilities to innovate

Respondents were asked whether it is possible to innovate on their farm. There were five options:

- There are many barriers
- There are barriers
- Neutral
- There are opportunities
- There are many opportunities

Figure 8 shows that the majority of the respondents (more than 50%) in all countries were positive about the opportunities to innovate. They chose the option "there are opportunities" or the option "there are many opportunities". The Swedish respondents were most optimistic, while the Belgian respondents were the least optimistic about the possibilities to innovate on their farm.
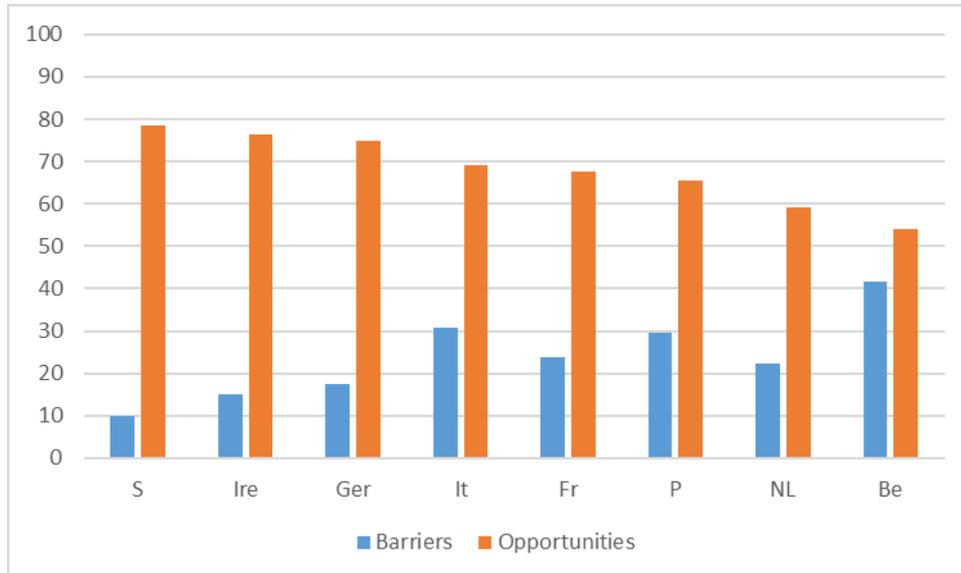

Figure 8. Perceived barriers (blue bars) and opportunities (red bars) for innovation on farms for eight different countries (% of respondents per country).

Barriers

Respondents were asked what they considered to be the main barriers to innovation. They could choose 1-4 barriers from a predefined set of potential barriers. Figure 9 shows the importance attached to the different barriers (average of eight countries). The top three consisted of:

- Money / costs too high / benefits too low
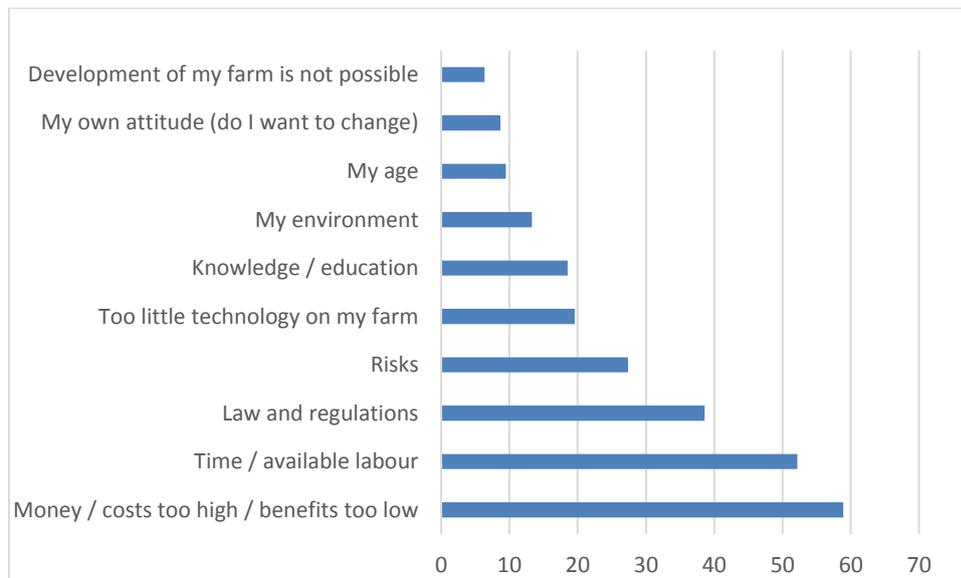- Time / available labour
- Law and regulations

Figure 9. Barriers to innovations on grasslands (average of eight countries, % respondents that chose this barrier; respondents could choose 1-4 barriers).

There were differences in barriers between countries (Figure 10, Figure 11 and Figure 12). 'Money/costs too high/benefits too low' was the most important barrier to innovation for Belgium, the Netherlands, Italy and Poland. For Ireland, Sweden and France this was 'time/available labour', while 'law and regulations' was the most important barrier for innovation in Germany.
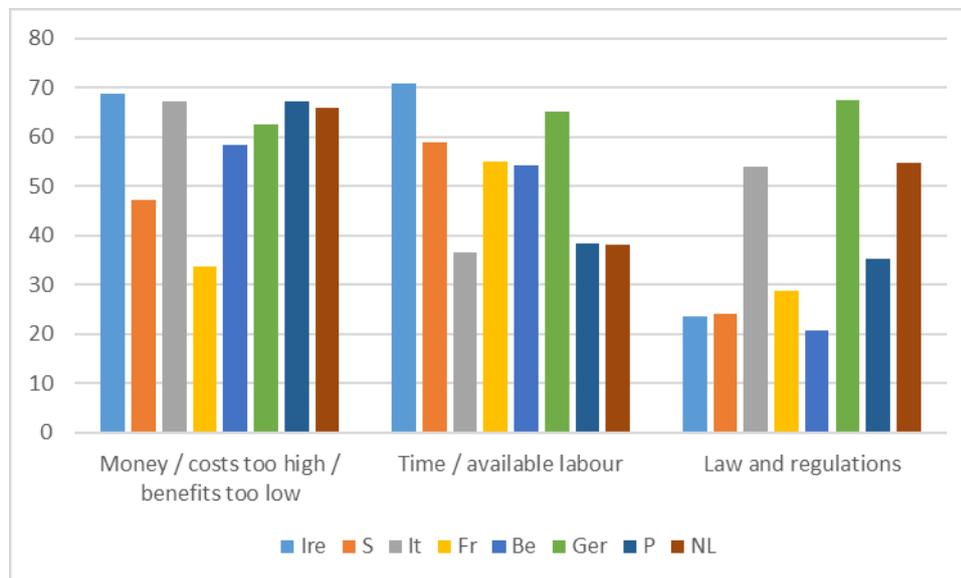

Figure 10. Three barriers to innovations on grasslands (money/costs too high/benefits too low, time/available labour, law and regulations) in eight countries (% respondents that chose this barrier).
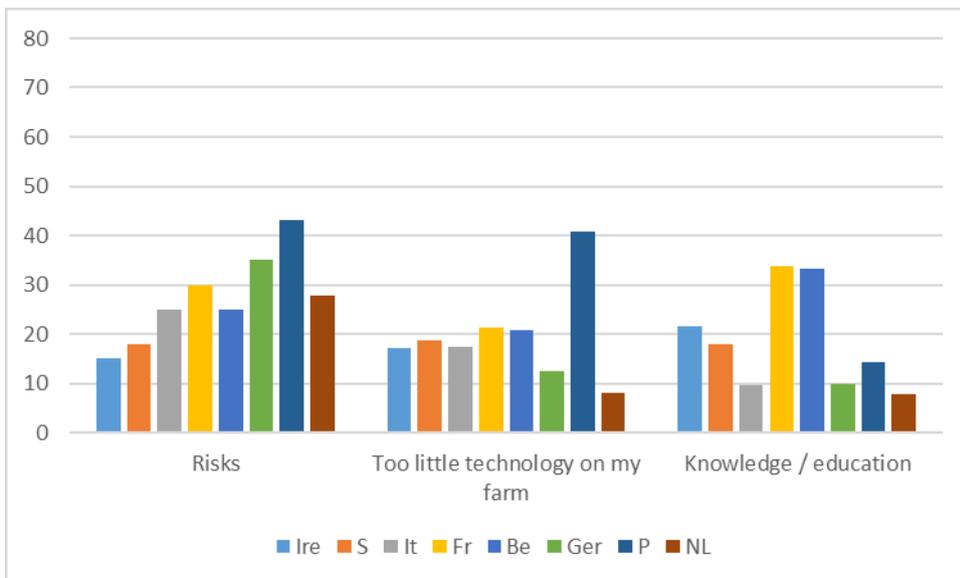
Figure 11. Three barriers to innovations on grasslands (risks, too little technology on my farm, knowledge/education) in eight countries (% respondents that chose this barrier).
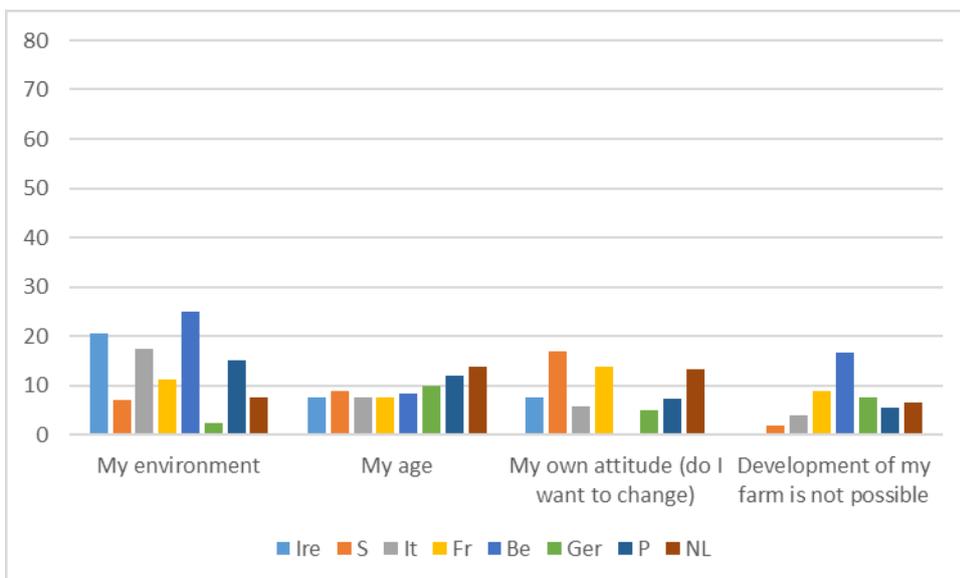
Figure 12. Four barriers to innovations on grasslands (my environment, my age, my own attitude, development of my farm is not possible) in eight countries (% respondents that chose this barrier).

Respondents could also mention other barriers that they considered to be important. A limited number of respondents provided additional barriers:

- Lack of family members taking over the farm in the future (this barrier was provided 5 times)
- Family members who want to keep everything the same (5 times)
- Social environment (e.g. envy, going off the beaten track creates resistance, the lack of an independent advisor) (4 times)
- Climate / weather / drought (3 times)
- Health of the farmer (2 times)

Drivers

Respondents were asked what they considered to be the main drivers for innovation. They could choose 1-4 drivers from a predefined set of potential drivers. Figure 13 shows the importance attached to the different drivers (average of eight countries). The top three consisted of:

•   Money / profit / better income
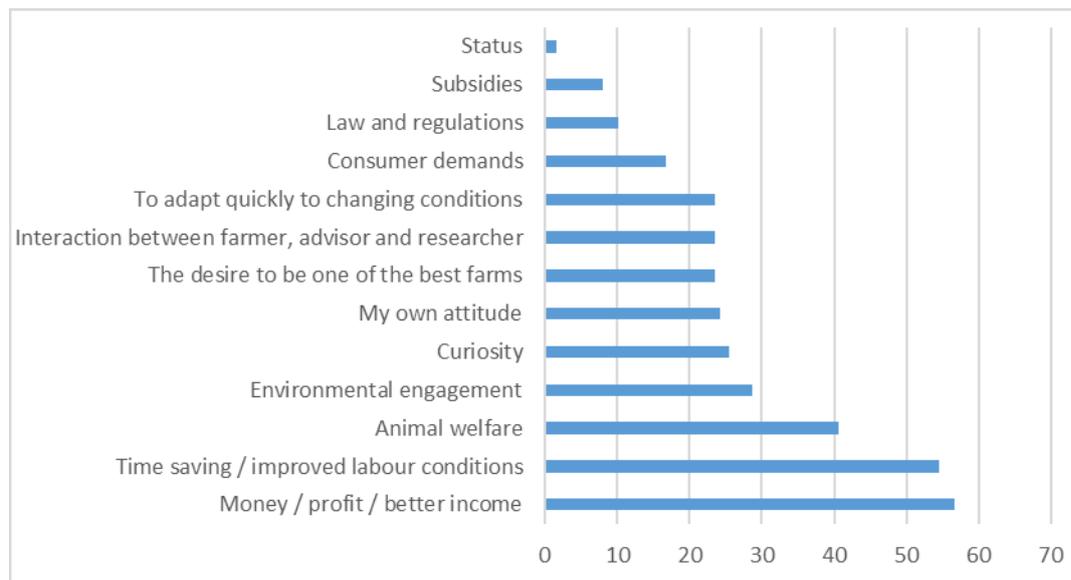•   Time saving / improved labour conditions
•   Animal welfare

Figure 13. Drivers for innovations on grasslands (average of eight countries, % respondents that chose this driver; respondents could choose 1-4 drivers).

There were differences in drivers between countries (Figure 14, Figure 15, Figure 16 and Figure 17). 'Money/profit/better income' was the most important driver for innovation for Ireland, Sweden, Poland and the Netherlands. For France and Belgium, this was 'time saving/improved labour conditions', while 'animal welfare' was the most important driver for innovation in Italy and Germany.
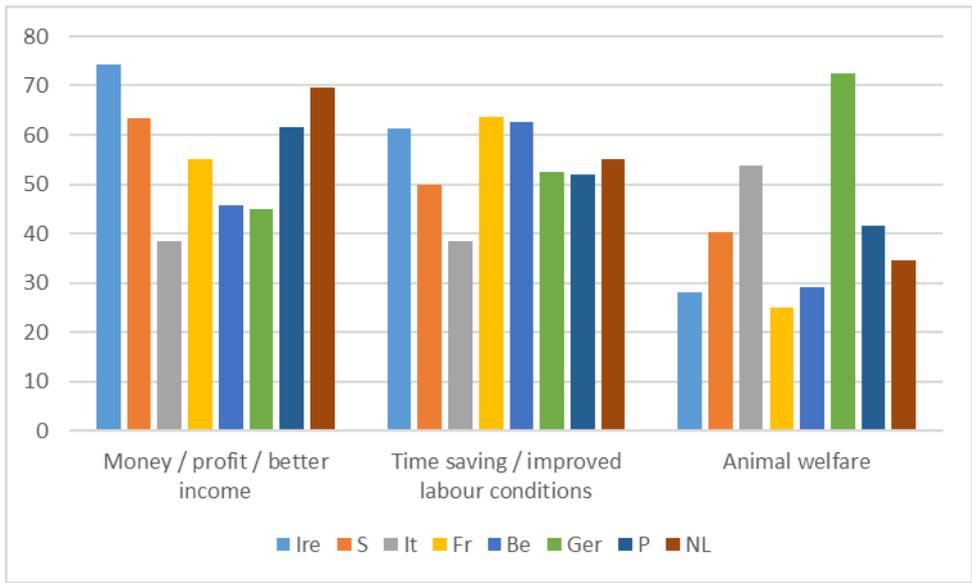
Figure 14. Three drivers for innovations on grasslands (money/profit/better income, time saving/improved labour conditions, animal welfare) in eight countries (% respondents that chose this driver).
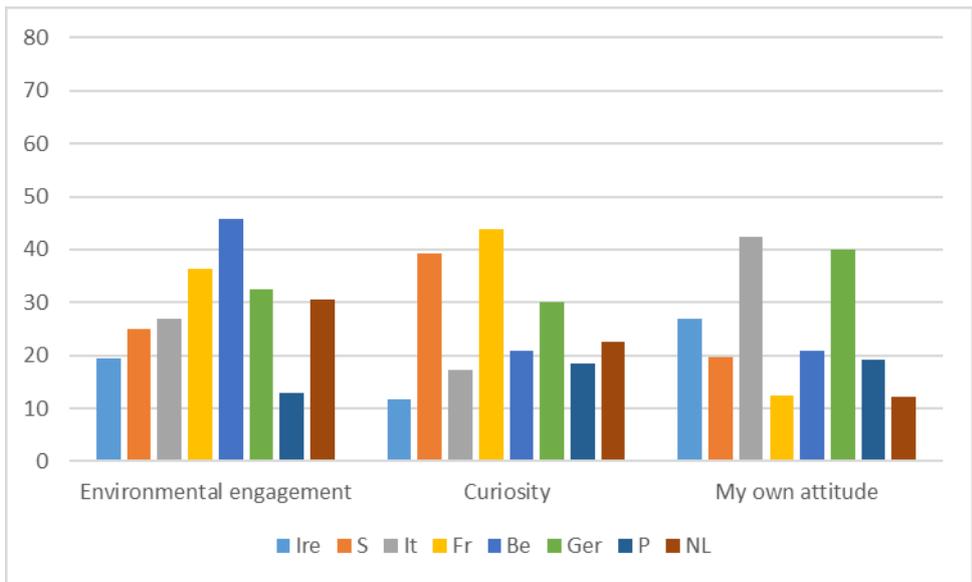

Figure 15. Three drivers for innovations on grasslands (environmental engagement, curiosity, my own attitude) in eight countries (% respondents that chose this driver).
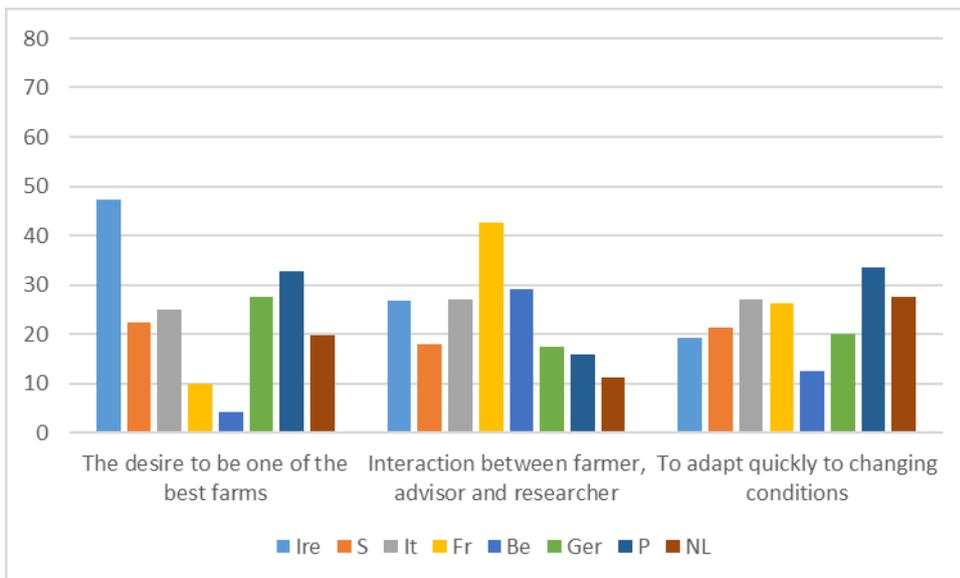
Figure 16. Three drivers for innovations on grasslands (the desire to be one of the best farms, interaction between farmer, advisor and researcher, to adapt quickly to changing conditions) in eight countries (% respondents that chose this driver).
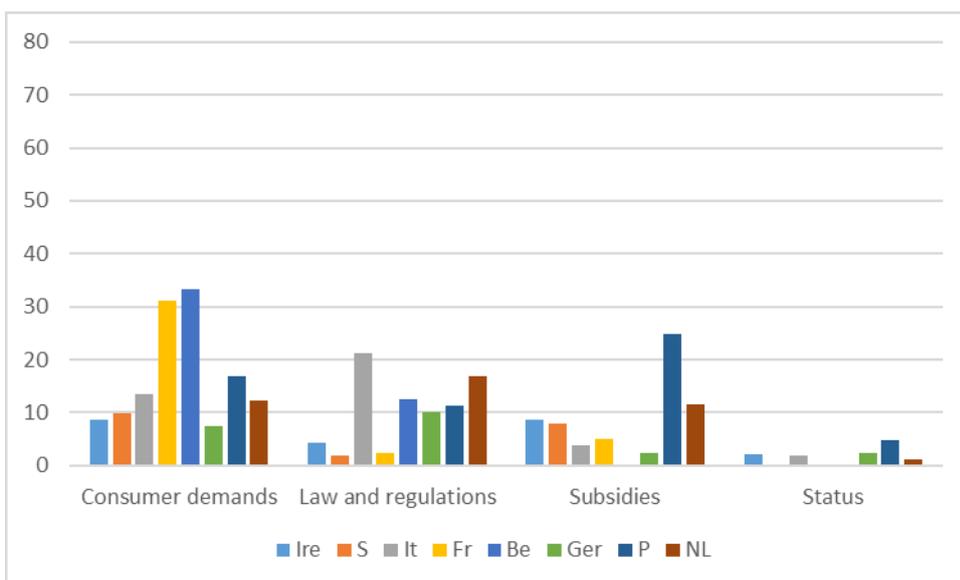
Figure 17. Four drivers for innovations on grasslands (consumer demands, law and regulations, subsidies, status) in eight countries (% respondents that chose this driver).

Respondents could also mention other drivers that they considered to be important. A limited number of respondents provided additional drivers:

- Improved technical results (e.g. yield increase, better forage quality, better soil quality, improved product quality) (this driver was provided 5 times)

Discussion and conclusion

This study was limited to eight European countries. Results may have been biased due to limited number of responses in some countries. There may also have been cultural differences between countries with respect to the willingness to fill in on-line questionnaires. Tens of thousands of farmers were approached to fill in the questionnaire, either via direct mail or via social media, and part of them finalised the questionnaire (1091 farmers). The farmers that did respond might not have been the average farmer representing the specific country. It is possible that especially those interested in innovations in grasslands filled in the questionnaire. Furthermore, it is possible that the respondents provided socially desirable answers. However, results of this study are valuable, since the study provides for the first time insight in drivers for innovation and barriers to innovation on grassland farms in Europe. The results of the questionnaire with respect to drivers and barriers will be used as input for the practice-science meetings of Inno4Grass.

Averaged over Europe, 'money' and 'labour' are the most important factors for innovation on grassland farms, both as a barrier to innovation and as a driver for innovation. Since money and labour are both the most important drivers and the most important barriers, money and labour can be used to stimulate innovations and to define actions to overcome barriers. The differences between different countries are, however, also noteworthy. 'Money/costs too high/benefits too low' was the most important barrier to innovation for Belgium, the Netherlands, Italy and Poland. For Ireland, Sweden and France this was 'time/available labour', while 'law and regulations' was the most important barrier for innovation in Germany. 'Money/profit/better income' was the most important driver for innovation for Ireland, Sweden, Poland and the Netherlands. For France and Belgium, this was 'time saving/improved labour conditions', while 'animal welfare' was the most important driver for innovation in Italy and Germany. These country-specific drivers and barriers can explicitly be used in the different countries to stimulate innovations.

Appendix 1. Questionnaire

Dear Madam/Sir,

Thank you very much for participating in this questionnaire on factors that are obstructing or stimulating innovations in grassland. Filling in this questionnaire only takes a couple of minutes.

This questionnaire is part of the European project Inno4Grass with partners from practice and science in 8 countries (www.inno4grass.eu).

1.

How important are innovations in general to you?

How important are innovations in grasslands to you?

How important are innovations in grazing to you?

Answers: very unimportant – unimportant – neutral – important – very important

2.

What influence have the following people/items on your decisions with respect to grasslands?

Answers: very unimportant – unimportant – neutral – important – very important

(People/items were placed in random order for each individual respondent)

- Advisors
- Non-governmental organisations
- Media
- Consumers
- Neighbors
- Customers
- Image of the farm / the sector
- Own values and norms
- Government
- Family

3.

Is it possible to innovate on your farm?

Answers:

- *There are many barriers*
- *There are barriers*
- *Neutral*
- *There are opportunities*
- *There are many opportunities*

4.

What do you see as the main barriers to innovation? (choose 1-4 answers)

(Barriers were placed in random order for each individual respondent)

- Knowledge / education
- Time/ available labour
- Law and Regulations
- Money / costs too high / benefits too low
- My own attitude (do I want to change)
- My environment
- My age
- Development of my farm is not possible
- Too little technology on my farm
- Risks
- Other, i.e.

5.
What do you see as the main drivers for innovation? (choose 1-4 answers)
(Drivers were placed in random order for each individual respondent)
- Environmental engagement
- Consumer demands
- Animal health
- Money / profit / better income
- Time saving / improved labour conditions
- Status
- Curiosity
- My own attitude
- Interaction between farmer, advisor and researcher
- Law and regulations
- The desire to be one of the best farms
- To adapt quickly to changing conditions
- Subsidies
- Other, i.e.

6.
Finally some questions on your farm situation. Data will be treated confidentially and your identity will never be disclosed.
What age are you?
- *Younger than 26 years old*
- *26-35 years old*
- *36-45 years old*
- *46-55 years old*
- *56-65 years old*
- *Older than 65 years old*

7.
What is your available grassland area?
- *I don't have grassland* (if this was the answer, respondents were led to the end of the questionnaire)
- *I have grassland, please provide total grassland area in ha*

8.
What is the main type of animal on your grassland?
- *Dairy cattle*
- *Beef cattle*
- *Sheep*
- *Goat*
- *Other, i.e.*

9.
What is your country?
- *…*

Thank you for taking the time to complete this questionnaire!
If you have anything you would like to add, please feel free to do so (optional). You can also press the button 'Done'.
If you would like to have more information about the Inno4Grass project, you are welcome to visit our website www.inno4grass.eu.