



Resilience for Dairy (R4D) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000770



Resilience
4 for
Dairy

INVENTORY AND ANALYSIS OF NEEDS TOWARDS RESILIENT DAIRY FARMING IN 15 EUROPEAN COUNTRIES



LYON 31/8/2023



Serena Soffiantini, CRPA, Italy
Alberto Menghi, CRPA, Italy

EUROPEAN INVENTORY of NEEDS for RESILIENT DAIRY FARMING

Contents:

- *Framework*
- *Structure of the survey*
- *Results of the survey:*
 - *overall results*
 - *results by key themes*
 - *some specific results*
- *Conclusions*





2021-2024

THEMATIC NETWORK

«FARMERS LEARNING FROM FARMERS»

120 PILOT FARMERS

15 COUNTRIES

18 Partners

Project leader



Resilience – KEY AREAS:

1. Economic and social resilience

STRATEGIC BUSINESS PLANNING,
QUALITY OF LIFE AND GENERATIONAL RENEWAL

2. Technical Efficiency

BEST PRACTICES AND TECHNICAL INNOVATIONS

3. Environment, welfare and society

ADDRESSING THE RESPONSIVENESS OF THE DAIRY
SECTOR TO SOCIETAL NEEDS

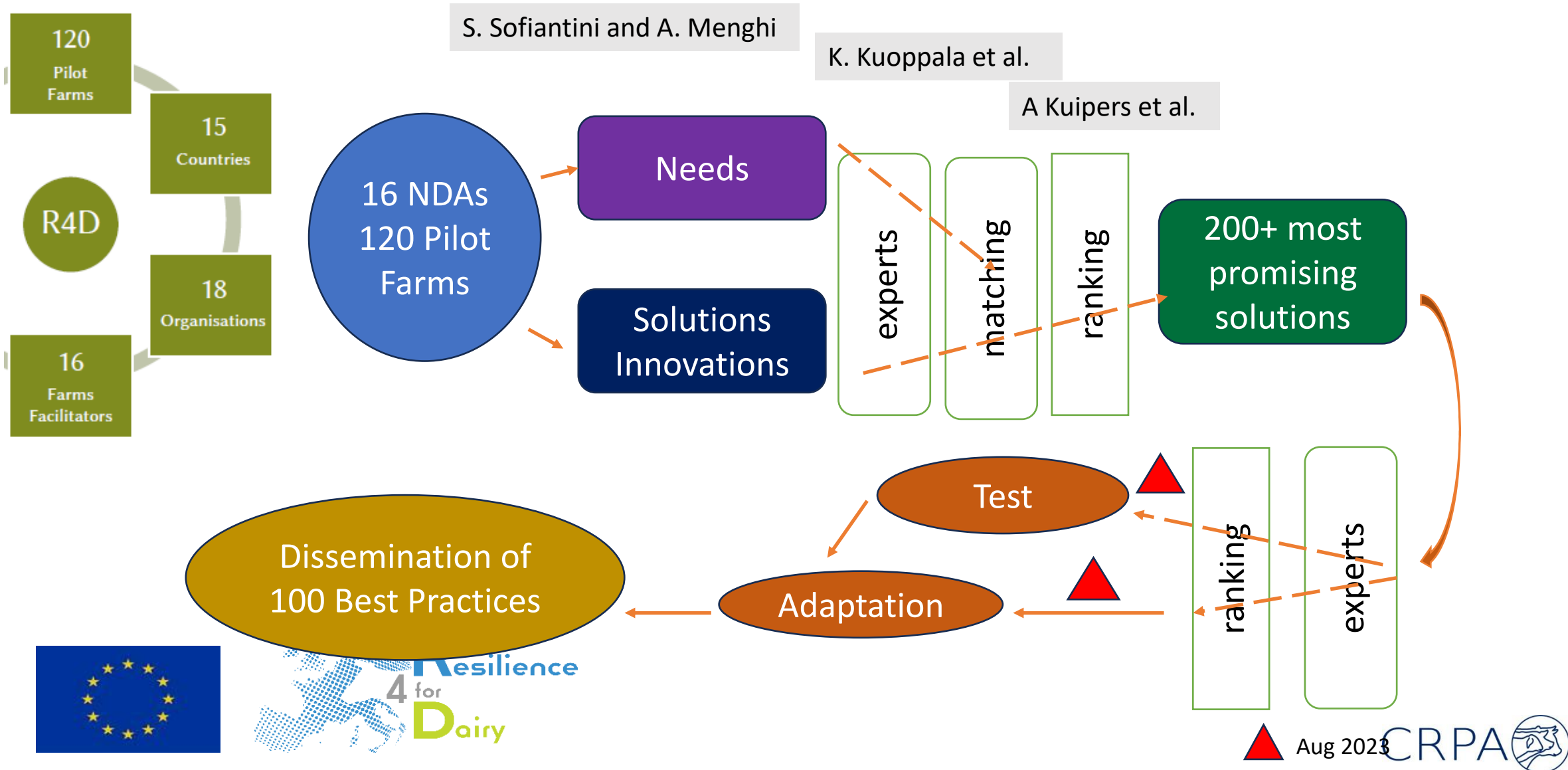
FINAL OBJECTIVE

Establish a range of ***best practices*** that are tailored to answer farmer's specific needs and society's expectations.

100 Factsheets
POTENTIAL SOLUTIONS



Expected outputs of R4D project: *Ready-to-use Best Practices*

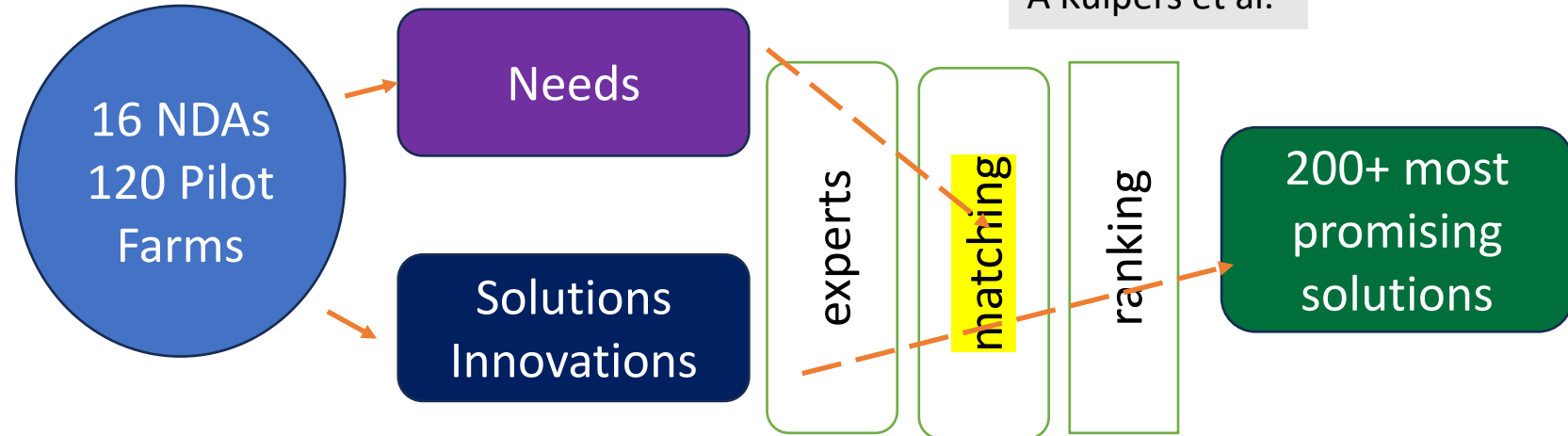


Collecting farmers most urgent needs and solutions. Creation of national Workplans

S. Sofiantini and A. Menghi

K. Kuoppala et al.

A Kuipers et al.



Online survey

Farmers and NDA meetings



INVENTORY of NEEDS

to improve farm resilience

2022 - Online survey



15 Countries

Online survey

43 SPECIFIC NEEDS

«Please rate you interest from 0 (no interest) to 5 (very interested) for the following needs/solutions for improving farm resilience»

0

1

2

3

4

5

I DON'T
KNOW

Economic and social resilience	FINANCIAL NEEDS	Easy access to credit
	BUSINESS MANAGEMENT: IMPROVE STRATEGIC SKILLS AND BUILD ROBUST BUSINESS MODELS	Strategic management and innovative resilience skills Economic calculators for on farm decision making Multi-purpose farm (e.g. teaching farm, biogas production farm, milk production, agro-tourism, care farm) Added value milk (e.g. farm house cheese, hay or grass milk)
	INFORMATION SOURCES, KNOWLEDGE, TRAINING	Reliable information sources, knowledge and training (e.g. webinars, courses, lectures) Innovative channel of information
	LABOUR CONDITIONS	Flexibility Salary/returns Work-life balance Career progression
Technical Efficiency	DAIRY CATTLE MANAGEMENT (housing, genetic, feeding system,...)	Innovative milking devices (e.g. robots)
		Innovative milking strategies (e.g. extended lactation)
		Innovative feeding systems for calves (feed composition, preparation and distribution)
		Innovative feeding systems for cows (feed composition, preparation and distribution)
		Individual/herd milk yield estimator/recorder
		Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors
	ANIMAL NUTRITION	Innovative devices for animal identification and/or localization
		Innovative reproduction (e.g. embryo transfer, sexed semen, cross breeding) and genetic/genomic tools and strategies
		Innovative devices for measuring grass growth and techniques for grazing management
		Innovative feed production, storage techniques and technologies
		Innovative hay production/management techniques and technologies
	ANIMAL HEALTH (and fertility)	Innovative silage production/management techniques and technologies
Innovative TMR production/management technologies and techniques		
Innovative and/or special supplements		
Feed additives to mitigate Methane emissions		
Environment, welfare and society	ANIMAL WELFARE	Prevention (e.g. vaccination, good practice)
		Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
		Innovative therapies
		Improvement of welfare conditions of calves
		Improvement of welfare conditions of cows
	ECOLOGICAL AND ENVIRONMENTAL FOOTPRINT/MITIGATION OF CLIMATE CHANGE/INPUTS EFFICIENCY	Environmental recording and assessment
		Animal parameters recording and assessment
		Automatic microclimate regulation (e.g. sprinkler activated by temperature)
		Innovative and animal-friendly housing
		Improving biodiversity
SOCIAL ISSUES: BUILD SOCIETY FRIENDLY SYSTEM	Environmental footprint assessment techniques and devices	
	Mitigation practices and strategies (e.g. to reduce GHG and/or ammonia emissions)	
	Efficiency of nitrogen use (e.g. feeding and grassland use)	
		Soil management (e.g. land rotation)
		Energy efficiency and use of renewable energy sources
		Reducing antibiotic use (e.g. blanket dry cow therapy)
		Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society

Online survey

43 *SPECIFIC NEEDS to rate from 0 to 5*

GENERAL INFORMATION ABOUT RESPONDERS

- **Country**
- **Profession (select one):**
- **Age**
- **Gender**
- **Level of education**
- **Marital Status**
- **Presence of children**
- **Are you farm owner/worker?**

If farmer:

- **How many cows** do you milk?
- Are you seasonal or all year round calving?
- Do you rear your own heifers?
- How many workers are you on your farm?
- How many milk do you produce per year?
- What is your total Agricultural Area?

RESULTS

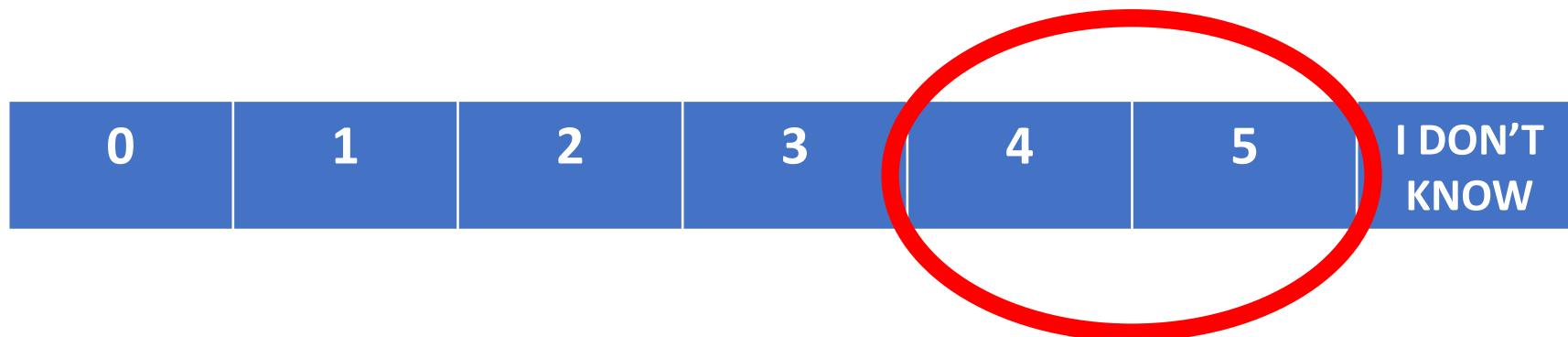
SAMPLE SIZE **No. 535**

	COUNTRY	NUMBER OF RESPONSES
1	FLEMISH REGION (BE)	91
2	WALLON REGION (BE)	87
3	DENMARK	12
4	FRANCE	38
5	FINLAND	34
6	IRELAND	9
7	GERMANY	23
8	ITALY	55
9	LITHUANIA	14
10	LUXEMBOURG	16
11	HUNGARY	23
12	THE NETHERLANDS	25
13	NORTHERN IRELAND	14
14	POLAND	14
15	SLOVENIA	46
16	SPAIN	34
	TOTAL	535

METHOD OF RANKING

**Different “level of criticality” of responders:
both score 4 and 5 has been considered to define the ranking**

**On the top positions there are the needs that received
the highest number of score 4 and 5.**



European overall results

RANK	NEEDS - European overall ranking - Top 20	%
1	Work-life balance – QUALITY OF LIFE	83%
2	Improvement of welfare conditions of cows – ANIMAL WELFARE	81%
3	Salary/returns – QUALITY OF LIFE	80%
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness) – PREVENTION - EARLY DETECTION	79%
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society – COMMUNICATION	77%
6	Improvement of welfare conditions of calves – ANIMAL WELFARE	76%
7	Flexibility – QUALITY OF LIFE	76%
8	Energy efficiency and use of renewable energy sources – ENVIRONMENT	74%
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors – PREVENTION - EARLY DETECTION	73%
10	Innovative and animal-friendly housing – ANIMAL WELFARE	73%
11	Efficiency of nitrogen use (e.g. feeding and grassland use) – ENVIRONMENT	72%
12	Soil management (e.g. land rotation) – ENVIRONMENT	71%
13	Reliable information sources, knowledge and training (e.g. webinars, courses, lectures) – MANAGEMENT	69%
14	Economic calculators for on farm decision making – MANAGEMENT	68%
15	Prevention (e.g. vaccination, good practice) – PREVENTION	68%
16	Innovative feeding systems for cows (feed composition, preparation and distribution) – INNOV. IN FEED	67%
17	Strategic management and innovative resilience skills – MANAGEMENT	64%
18	Innovative silage production/management techniques and technologies – INNOV. IN FEED	64%
19	Reducing antibiotic use (e.g. blanket dry cow therapy) - AM REDUCTION	63%
20	Innovative feed production, storage techniques and technologies – INNOV. IN FEED	62%

Some specific investigations by cluster

CLUSTERS

Farmers	379
Different professions	156

Farmers	379
More than 100 cows	170

Up to 39 years	164
Over 40 years	371

Male	405
Female	125
Prefer not to say	5

ISCED 1-5 (Within tertiary education level)	239
ISCED 6-8 (Bachelor's level or upper level)	296

Farmers point of view

	OVERALL RESULTS (no. 535)	FARMERS (no. 379)
1	Work-life balance	Improvement of welfare conditions of cows
2	Improvement of welfare conditions of cows	Work-life balance
3	Salary/returns	Salary/returns
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society
6	Improvement of welfare conditions of calves	Flexibility
7	Flexibility	Improvement of welfare conditions of calves
8	Energy efficiency and use of renewable energy sources	Energy efficiency and use of renewable energy sources
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors
10	Innovative and animal-friendly housing	Prevention (e.g. vaccination, good practice)



Under 40 point of view

	OVERALL RESULTS (no. 535)	UP TO 39 YEARS OLD (no. 3164)
1	Work-life balance	Work-life balance
2	Improvement of welfare conditions of cows	Salary/returns
3	Salary/returns	Improvement of welfare conditions of cows
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	Improvement of welfare conditions of calves
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
6	Improvement of welfare conditions of calves	Flexibility
7	Flexibility	Innovative and animal-friendly housing
8	Energy efficiency and use of renewable energy sources	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors	Energy efficiency and use of renewable energy sources
10	Innovative and animal-friendly housing	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society

Female point of view

	OVERALL RESULTS (no. 535)	FEMALE (no. 125)
1	Work-life balance	Work-life balance
2	Improvement of welfare conditions of cows	Improvement of welfare conditions of cows
3	Salary/returns	Innovative and animal-friendly housing
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	Improvement of welfare conditions of calves
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	Salary/returns
6	Improvement of welfare conditions of calves	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
7	Flexibility	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society
8	Energy efficiency and use of renewable energy sources	Flexibility
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors	Reliable information sources, knowledge and training (e.g. webinars, courses, lectures)
10	Innovative and animal-friendly housing	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors

High level of education point of view

	OVERALL RESULTS (no. 535)	ISCED 6-8 - Bachelor's level or upper level (no. 296)
1	Work-life balance	Work-life balance
2	Improvement of welfare conditions of cows	Salary/returns
3	Salary/returns	Improvement of welfare conditions of cows
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	Flexibility
6	Improvement of welfare conditions of calves	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society
7	Flexibility	Improvement of welfare conditions of calves
8	Energy efficiency and use of renewable energy sources	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors	Energy efficiency and use of renewable energy sources
10	Innovative and animal-friendly housing	Innovative and animal-friendly housing

Herd dimension

	OVERALL RESULTS (no. 535)	MORE THAN 100 COWS (no. 170)
1	Work-life balance	Improvement of welfare conditions of cows
2	Improvement of welfare conditions of cows	Salary/returns
3	Salary/returns	Work-life balance
4	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	Improvement of welfare conditions of calves
5	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society
6	Improvement of welfare conditions of calves	Energy efficiency and use of renewable energy sources
7	Flexibility	Flexibility
8	Energy efficiency and use of renewable energy sources	Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)
9	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors	Innovative detectors/devices for metabolic disease, pathologies (e.g. mastitis, lameness), estrum, eating/grazing behaviour, calving time detectors
10	Innovative and animal-friendly housing	Efficiency of nitrogen use (e.g. feeding and grassland use)

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Conclusions

- The ranking shows the **variety of needs** that farmers have to face
- Results are homogeneous comparing different clusters
- The **main themes** are:
 - *farmers welfare (work-life balance, salary, work flexibility)*
 - *animal welfare (cow and calves) and animal health (+++prevention → AM reduction)*
 - *communication with civil society*
 - *environmental sustainability (renewable energy)*
 - *management (farmers education, data driven decisions tools)*
- Improvement of “**Work-life balance**” and “**Transparent and effective communication with civil society**” are in the top 5 issues, just on the same level of other more technical or economic challenges
- “**Work-life balance**” is always in the first 3 top positions regardless clusters (often 1st position): it is comprehensive parameter (*it is the final effect of other needs*)



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Thank you

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