

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

Resilience4Dairy

Needs of the Dairy Sector: a Hungarian Overview

Levente Czeglédi, Béla Béri, István Komlósi, Evelin Török

University of Debrecen, Hungary



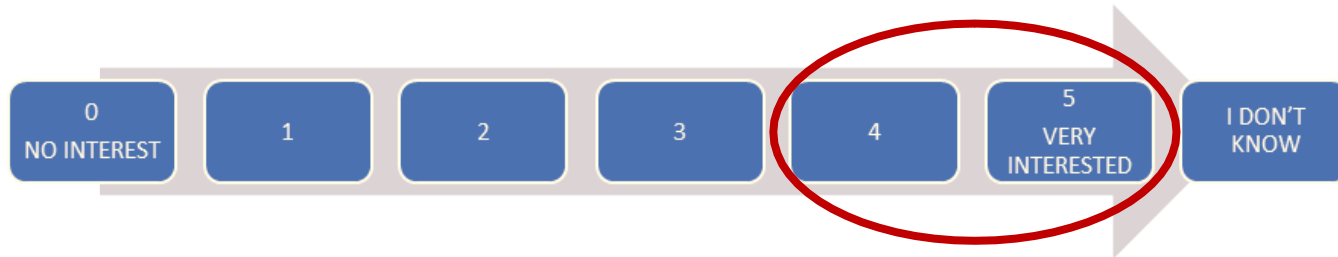
LYON 30/8/2023



The approach

- Inventory of farmer's needs: a literature review and R4D consortium partners
- Online survey (Google Form)
- Survey run in 2022

- Structure:
 - 43 needs
 - Attribution of each item **to the improvement of farm resilience.**
 - The rate: 0 (no interest) to 5 (very interested) and “I don't know”.



Key areas of the survey



I. TECHNICAL EFFICIENCY

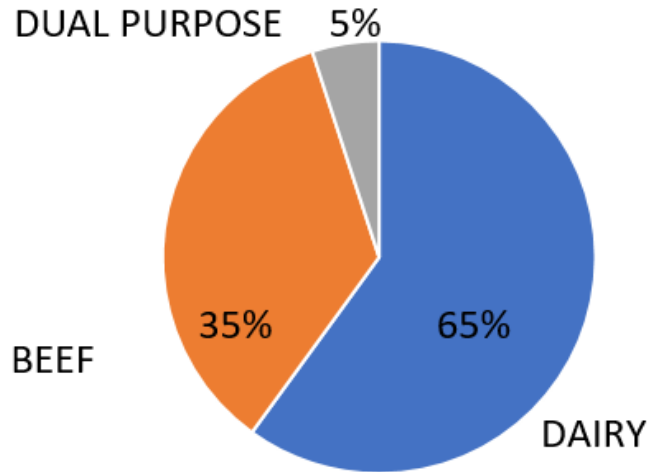


II. ENVIRONMENT, ANIMAL WELFARE AND
SOCIETY FRIENDLY PRODUCTION SYSTEMS



III. ECONOMIC EFFICIENCY AND SOCIAL
RESILIENCE

The dairy sector



Distribution of cows in Hungary

No. of cows in a farm	farms (%)	cows (%)
1-50	11	1
50-300	41	22
300-500	25	31
500 <	23	46

Yield

- Holstein: over 10 000 l/year
- Jersey: 5500 l/year, 5.5% fat
- Brown Swiss 8300 l/year
- Simmental 6000 l/year

Trend

- Slight increase at farm size
- No change in number of dairy farms

The most and the least important needs on **technical efficiency** field

Needs	%
Innovative milking strategies (e.g. extended lactation)	91
Innovative feeding systems for cows (feed composition, preparation and distribution)	91
Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness)	91
Innovative milking devices (e.g. robots)	87
Individual/herd milk yield estimator/recorder	87
	%
Innovative devices for animal identification and/or localization	74
Innovative and/or special supplements	74
Innovative hay production/management techniques and technologies	65
Feed additives to mitigate Methane emissions	43
Innovative devices for measuring grass growth and techniques for grazing management	30

The most and the least important needs on **environment, animal welfare and society friendly production systems** field

Needs	%
Improvement of welfare conditions of cows	91
Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	91
Improvement of welfare conditions of calves	87
Automatic microclimate regulation (e.g. sprinkler activated by temperature)	87
Innovative and animal-friendly housing	87
	%
Environmental recording and assessment	70
Animal parameters recording and assessment	65
Efficiency of nitrogen use (e.g. feeding and grassland use)	65
Mitigation practices and strategies (e.g. to reduce GHG and/or ammonia emissions)	61
Environmental footprint assessment techniques and devices	43

The most and the least important needs on **the economic efficiency and social resilience** field

Needs	%
Reliable information sources, knowledge and training (e.g. webinars, courses, lectures)	91
Innovative channel of information	91
Salary/returns	91
Flexibility	87
Work-life balance	83
	%
Economic calculators for on farm decision making	74
Added value milk (e.g. farm house cheese, hay or grass milk)	74
Career progression	70
Easy access to credit	61
Multi-purpose farm (e.g. teaching farm, biogas production farm, milk production, agro-tourism, care farm)	57

The most and the least important needs of farmers in Hungary – overall results

Needs	%
Innovative milking strategies (e.g. extended lactation), innovative feeding system for cows (feed composition, preparation and distribution) and innovative testing/analysis for early detection of diseases	91
Improvement of welfare conditions of cows	91
Effective communication and transparency to the general public of agricultural practices and the role of agriculture in society	91
Reliable information sources, knowledge and training (e.g. webinars, courses, lectures)	91
Innovative channel of information	91
Salary/returns	91
	%
Easy access to credit	61
Multi-purpose farm (e.g. teaching farm, biogas production farm, milk production, agro-tourism, care farm)	57
Feed additives to mitigate Methane emissions	43
Environmental footprint assessment techniques and devices	43
Innovative devices for measuring grass growth and techniques for grazing management	30

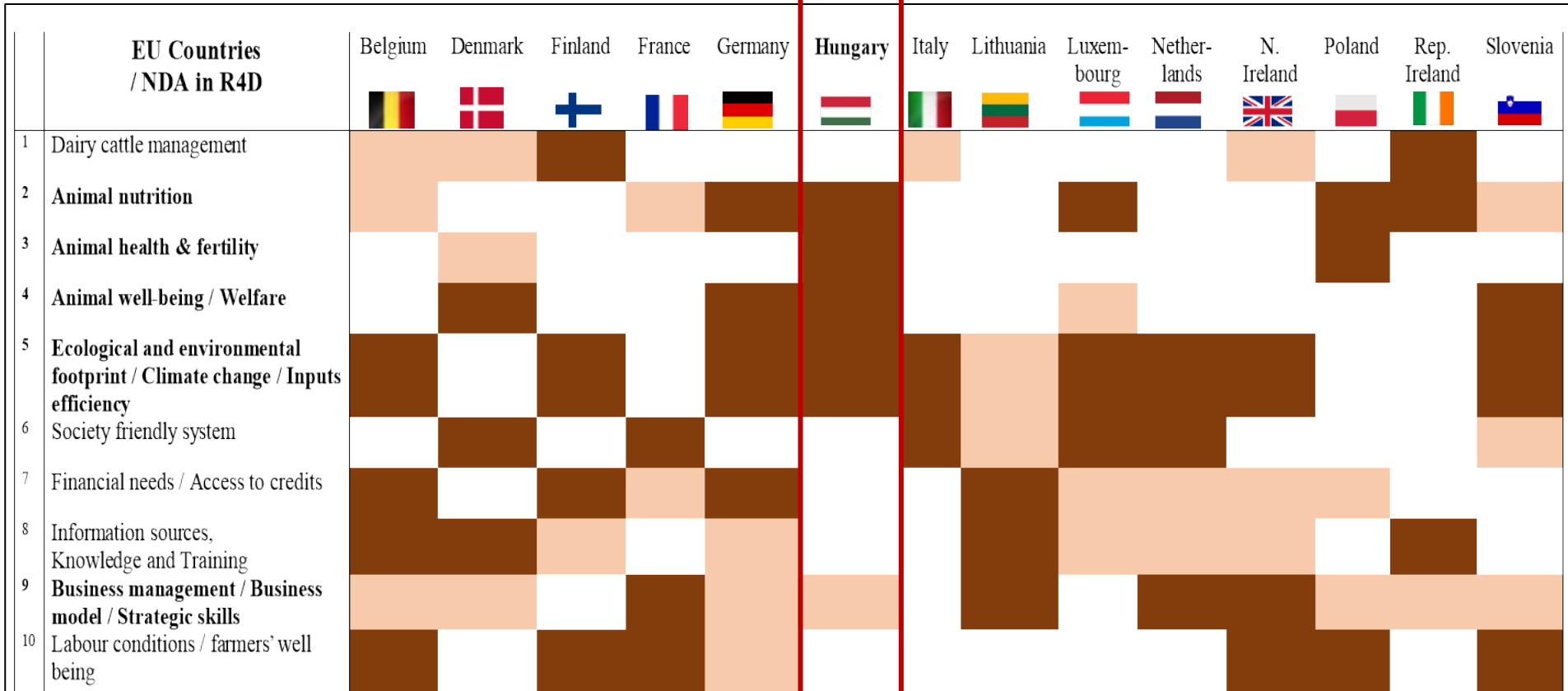
The most and the least important needs of farmers in Hungary – overall results

Needs	%
Innovative milking strategies (e.g. extended lactation), innovative feeding system for cows (feed composition, preparation and distribution) and innovative testing/analysis for early detection of diseases	91
Improvement of welfare conditions of cows	91
Effective communication and transparency to the public about the production of products and the role of agriculture in society	91
Reliable information and training (e.g. webinars, courses, lectures)	91
Innovative channels of distribution	91
Salary/returns	91
	%
Easy access to credit	61
Multi-purpose farm (e.g. teaching farm, biogas production farm, milk production, agro-tourism, care farm)	57
Feed additives to mitigate Methane emissions	43
Environmental footprint assessment techniques and devices	43
Innovative devices for measuring grass growth and techniques for grazing management	30

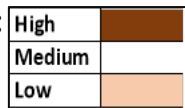
Efficient production with happy cows

Specific needs

Results from online surveys and National dairy AKIS



Needs – level of importance:



Country Farmer's strategy for a "resilient" dairy system

- Build and apply new technology: housing of milking cows and milking parlour



laying box instead of deep bedding



- Improve genetics: bulls with genomic breeding value
- Biotechnology: embryo transfer
- Smaller farms produce and sell dairy products
- Increase milk yield!!

Innovations in the Hungarian dairy sector

- Changing climate: dry summer → new plants, new roughage, technology, harvesting time
- Technology: slurry instead of farm yard manure, aquabed
- Automatization to decrease labour requirement
- Sensors: feed consumption, rumination, rument pH, heart rate, calving indicator
- A2/A2 casein milk
- GMO free milk



Innovations in the Hungarian dairy sector

- Changing climate: dry summer → new plants, new roughage, technology, harvesting time
- Technology: slurry instead of farm yard manure, aquabed
- Automatization to decrease labour requirement
- Sensors: feed consumption, rumination, rument pH, heart rate, calving indicator
- A2/A2 casein milk
- GMO free milk



Low ammonia emission
Better air quality

Regenerative agriculture – grassland on cropland

- Zero tillage farming
- After crop harvest, a ½- year grassland
- Cover crop: nitrogen fixing and biomass producing species
- Short time rotational grazing (1 day/paddock)



cover crop mix is grazed by Simmental stock



Future or potential shocks and threats

- Low yield of grasslands: average is 1.5 tons of hay / hectare
- Large dairy farms are not owners of the land, but they rent the land
- Lot of contracts are short term
- The price of concentrate, especially the protein feed



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



R4 for Dairy

Resilience

Thank you for your attention!



Univerza v Ljubljani

