



## Resilience4Dairy

### Needs of the Dairy Sector: a Hungarian Overview



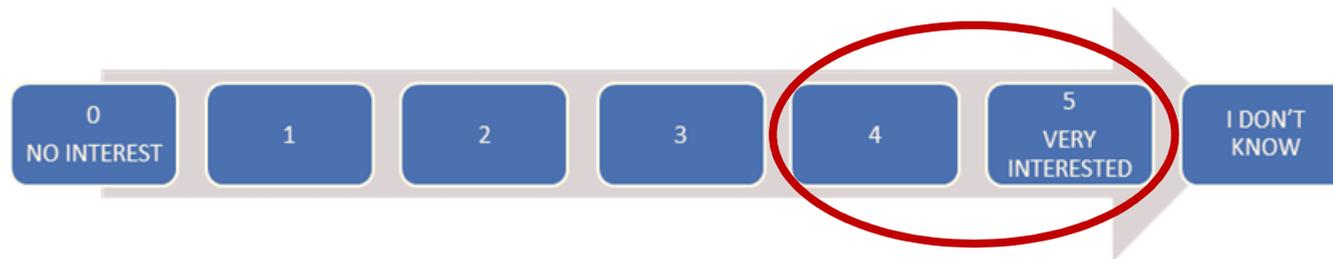
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## The approach

- 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

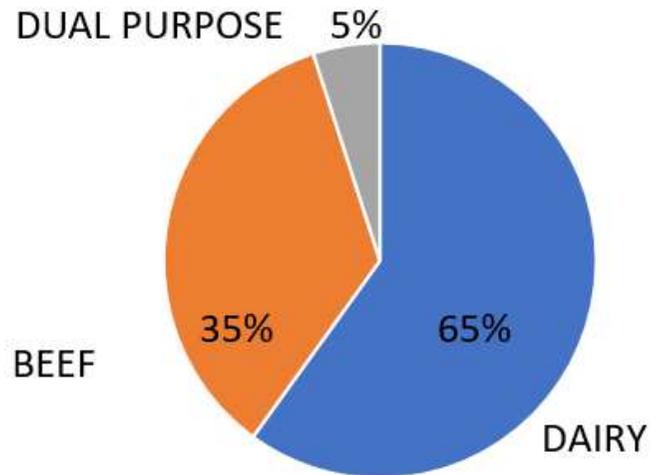


II. ENVIRONMENT, ANIMAL WELFARE AND  
SOCIETY FRIENDLY PRODUCTION SYSTEMS



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

| <b>Needs</b>   | <b>%</b> |
|--|----------|
| 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       |
|  | <b>%</b> |
| 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

| <b>Needs</b>  | <b>%</b> |
|---|----------|
| 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       |
|   | <b>%</b> |
| 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**

| <b>Needs</b>  | <b>%</b> |
|---|----------|
| 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       |
|   | <b>%</b> |
| 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  | %  |
|--|----|
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| 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 |
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**Efficient production with happy cows**

# Specific needs

Results from online surveys and National dairy AKIS

| EU Countries / NDA in R4D   | Belgium | Denmark | Finland | France | Germany | Hungary | Italy | Lithuania | Luxembourg | Netherlands | N. Ireland | Poland | Rep. Ireland | Slovenia |
|---|---------|---------|---------|--------|---------|---------|-------|-----------|------------|-------------|------------|--------|--------------|----------|
| 1 Dairy cattle management   | Low     | Low     | High    | Low    | Low     | High    | Low   | Low       | Low        | Low         | Low        | Low    | High         | Low      |
| 2 Animal nutrition  | Low     | Low     | Low     | Low    | High    | High    | Low   | Low       | High       | Low         | Low        | High   | High         | Low      |
| 3 Animal health & fertility   | Low     | Low     | Low     | Low    | High    | High    | Low   | Low       | Low        | Low         | Low        | High   | High         | Low      |
| 4 Animal well-being / Welfare   | Low     | High    | Low     | Low    | High    | High    | Low   | Low       | Low        | Low         | Low        | Low    | Low          | High     |
| 5 Ecological and environmental footprint / Climate change / Inputs efficiency | High    | Low     | High    | Low    | High    | High    | High  | Low       | High       | High        | High       | High   | High         | High     |
| 6 Society friendly system   | Low     | High    | Low     | High   | Low     | High    | High  | Low       | High       | High        | Low        | Low    | Low          | Low      |
| 7 Financial needs / Access to credits   | High    | Low     | High    | Low    | High    | High    | Low   | High      | Low        | Low         | Low        | Low    | Low          | Low      |
| 8 Information sources, Knowledge and Training                                 | High    | High    | Low     | Low    | Low     | High    | Low   | Low       | Low        | Low         | Low        | Low    | High         | Low      |
| 9 Business management / Business model / Strategic skills                     | Low     | Low     | Low     | High   | Low     | Low     | High  | Low       | Low        | Low         | Low        | Low    | Low          | Low      |
| 10 Labour conditions / farmers' well being                                    | High    | Low     | High    | Low    | Low     | Low     | Low   | Low       | Low        | Low         | Low        | High   | Low          | High     |

Needs – level of importance:

|        |   |
|--------|---|
| High   |  |
| Medium |  |
| Low    |  |

## 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



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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





Thank you for your attention!

