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


Villa Contarini, 29th September 2023

# R4D FRAMEWORK AND INVENTORY OF NEEDS

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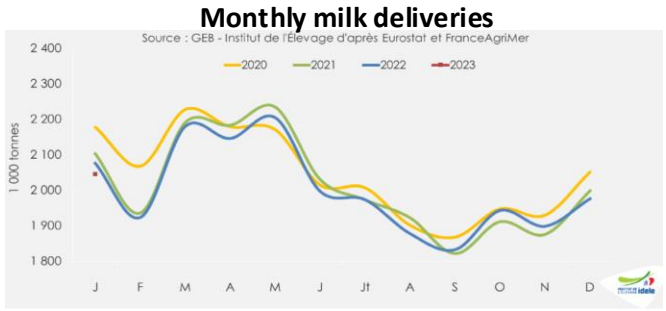
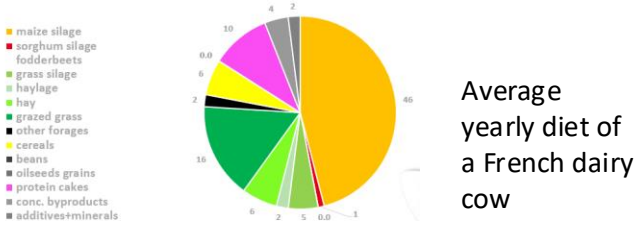
# Dairy Production in France

## Production 1984-2021

| | | 1984 | 2015 | 2021 |
|---|---|---|---|---|
| Milk yield | [mil. tonnes] | 26,1 | 25.4 | 24.9 |
| Dairy farms | [x 1000] | 427 | 67 | 54 |
| Dairy cows | [x 1,000,000] | 6,764 | 3,637 | 3,322 |
| Milk yield | [kg/cow p.a.] | 3,859 | 6,990 | 7,500 |
| Avg. herd size | [cows/farm] | 16 | 59 | 68 |




Average yearly diet of a French dairy cow

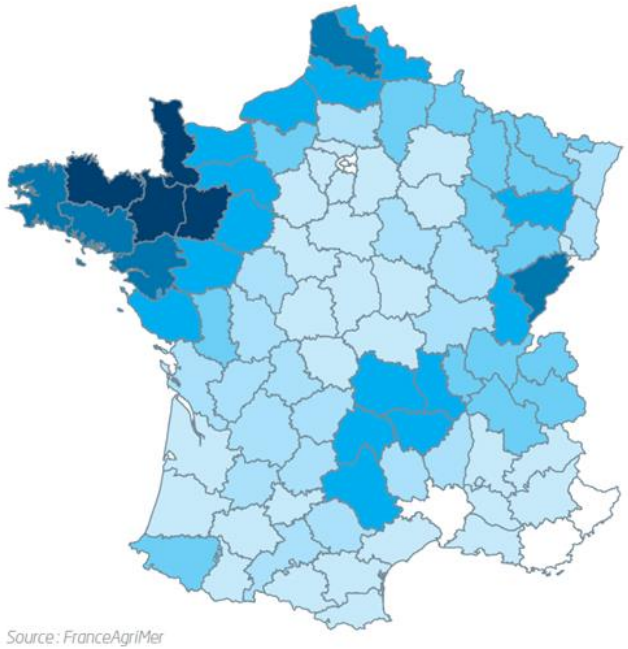
## Husbandry system

- Year-round calving
- Freestall barns (cubicles/deep bedding), plain or slatted floors, slurry or manure collection
- Main breeds: Holstein, Normande (plains) Montbéliarde (piedmonts and mountains), + crossbreds
- First calving: 29 months old
- Lactations: 2.5 on average

## Grazing system

- Main systems: rotational grazing combination of continuous + rotational
- Pasture access: 90 % of dairy cows
- Grazing season: 6-10 months/year
- Daily grazing time: 6-20 hours per day

## Regional distribution



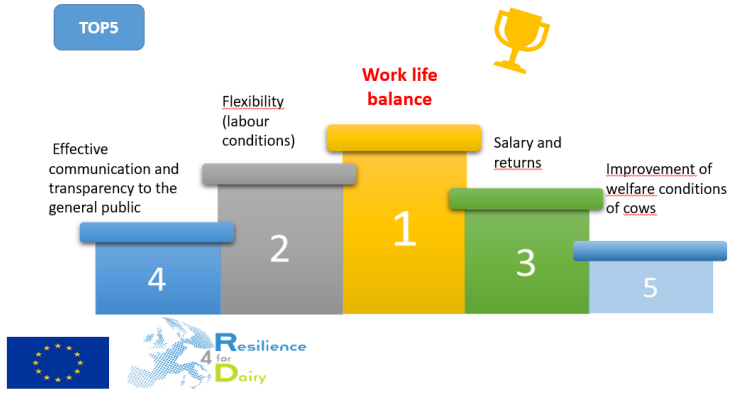
Source : FranceAgriMer

# Challenges, targets, actions?

## Challenges

- **Facing climate change and hazards**
- **Reduce carbon footprint of milk and GHG emissions**
- **Increasing protein self-sufficiency**
- **Decreasing costs of inputs and energy**
- **Facing the decrease in organic milk consumption**
- **Generational renewal, attractiveness of dairy farming**
- **Dairy to beef**
- **Animal welfare/Happy cow**

Online survey on farmers' needs - France




## 2030 - Targets

- Reduce agricultural GHG emissions from 81 to 65 mil. tonnes CO2e (-20 % between 2030 and 2021) and – 46% between 2050 and 2015
- Reduce N surplus to 90 kg/ha
- Increase organic farming area to 15 % of land use
- Increase area of oilseeds, protein crops and legumes to 8% of AA (2 millions ha)
- Achieve good ecological status in 100 % of water bodies
- Increase biodiversity by hedges and grassland
- Increase animal welfare (housing, outdoor access, transport,…)

## What are the actions that are required?

LA FERME LAITIÈRE BAS CARBONE

Pathways to Dairy Net Zero

CAP PROTÉINES
innovons pour notre souveraineté protéique

**Cap Protéines: a roadmap to increase protein self sufficiency at farm and territorial level, to cut imports of 1.5 millions tons of soya cakes**


# 2021-2024

## THEMATIC NETWORK

**«FARMERS LEARNING FROM FARMERS»**

**120 PILOT FARMERS**

**15 COUNTRIES**

**18 Partners**

**Project leader** INSTITUT DE L'ELEVAGE idele

# *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**

# 1ST STEP

**INVENTORY** of **NEEDS**
to improve farm resilience

# 2022 - Online survey


**15 Countries**

| | | |
|---|---|---|
| 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 |
| | | 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 |
| | ANIMAL NUTRITION | Innovative feed production, storage techniques and technologies |
| | | Innovative hay production/management techniques and technologies |
| | | 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 |
| | ANIMAL HEALTH (and fertility) | Prevention (e.g. vaccination, good practice) |
| | | Innovative testing/analysis for early detection of diseases (e.g. mastitis, infertility, metabolic diseases, lameness) |
| | | Innovative therapies |
| Environment, welfare and society | ANIMAL WELFARE | Improvement of welfare conditions of calves |
| | | Improvement of welfare conditions of cows |
| | | Environmental recording and assessment |
| | | Animal parameters recording and assessment |
| | | Automatic microclimate regulation (e.g. sprinkler activated by temperature) |
| | | Innovative and animal-friendly housing |
| | ECOLOGICAL AND ENVIRONMENTAL FOOTPRINT/MITIGATION OF CLIMATE CHANGE/INPUTS EFFICIENCY | Improving biodiversity |
| | | 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 |
| | SOCIAL ISSUES: BUILD SOCIETY FRIENDLY SYSTEM | 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 |

# RESULTS

| | 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 |

## SAMPLE SIZE

## No. 535

# 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%** |

# Further investigations by cluster

| | |
|---|---|
| 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 |

# Highlights

- 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

## www.resilience4dairy.eu

# PROGRAMME

11.00 WELCOME/INTRODUCTION BY APROLAV (President TERENZIO BORGA)

11.10 Introduction on farmers needs as defined by R4D project (Valerie Brocard (Project coordinator- IDELE- FRANCE), Serena Soffiantini and Alberto Menghi (Italian partner R4D project- CRPA - ITALY)

11.20 Mastitis detection (Kelly Schmit - LTA - LUXEMBOURG)
11.30 Strategic Hoof trimming (George Ramsbottom - TEAGASC - IRELAND)
11.40 Colostrum management (Sandra Debevere - INAGRO - BELGIUM)
11.50 Young stock weight (Evi Canniere - INAGRO - BELGIUM)

5/10 minutes, conclusions and Q&A