



# Precision feeding in dairy cows: what do professionals in ruminant nutrition and farmers think about it ?

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# General context

In modern dairy farming : importance of improving feed efficiency and decreasing negative environmental impacts



➡ A possible option : “Precision feeding strategies”, i.e. the right diet (quantity and quality), at the right time, to the right animal”

Several studies published, many discussions..., but still questions about such an approach “**on-farm**” :



*“Using precise control of concentrates distribution in dairy cows, to improve technical, economic and environmental performance, thanks to technologies available on-farms”*



« Research into practice »



**Interest ?**

**Worthwhile ?**

# What are the real needs and/or expectations of users, regarding Precision feeding in dairy cows?

## Inquiries:

- 50-60 French advisors and/or technical sales staff (study 1)



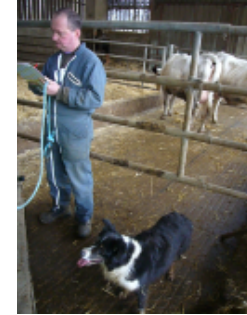
### Questions about (6 main items; 1 hour):

- General presentation of the respondent and its professional organization
- Presentation of farms he was in charged of
- Lactating dairy cow nutrition and professional advices
- Feelings about Individual supplementation
- What is precision feeding ?
- Source of information, resources and networks

- 20-25 French farmers (study 2)



Similar approach and questions



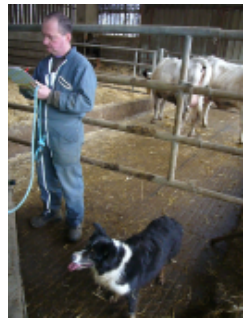
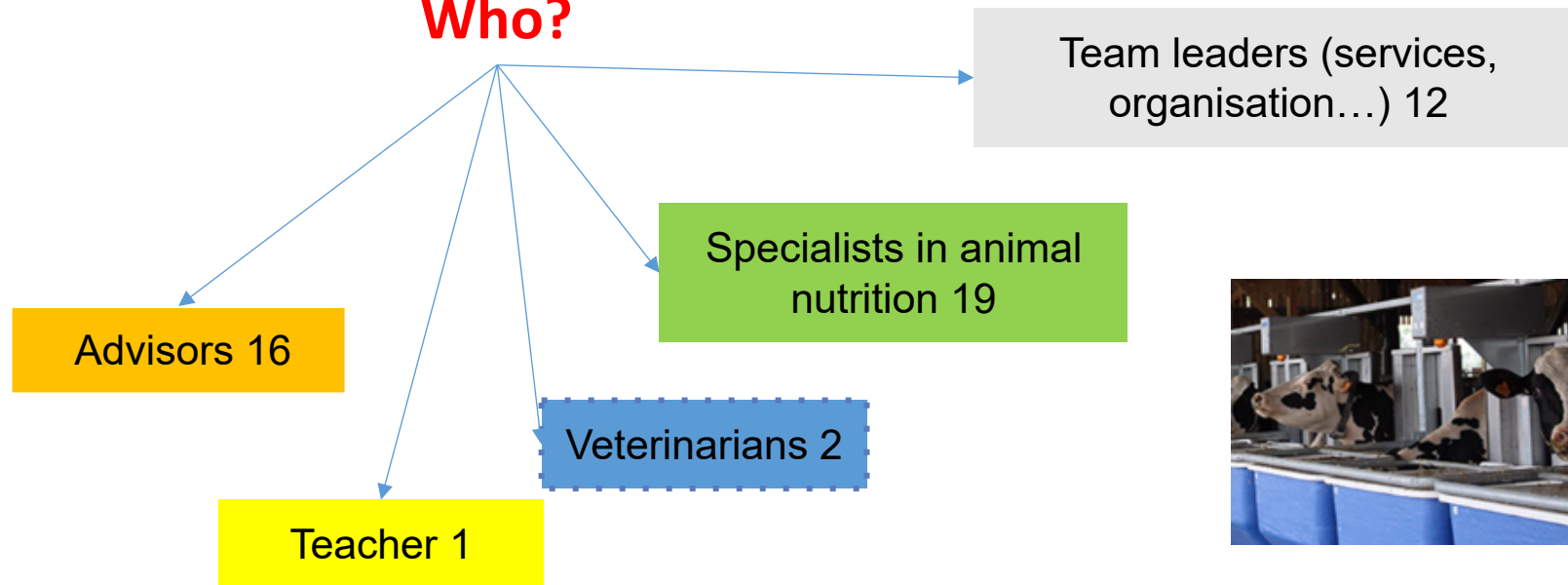
# French advisors and/or technical sales staff points of view (study 1)

- January 2023, performed by 14 students
- French stakeholders and professionals involved in dairy cows nutrition and management
- 112 contacts, 50 answers

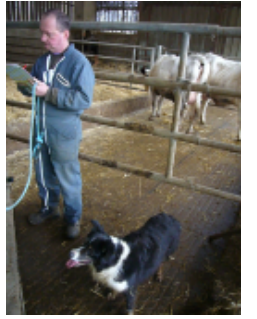
**Where ?** National level (11); N.E.: 12; N.W.: 14; S.E.: 5; S.W: 4; N (1) or E (2) of France; not available (1)



## Who?



# French advisors and/or technical sales staff points of view (study 1)



## Precision feeding

### What does it means ?

*(general agreement)*

### Expectations ?

A way to - increase precision

- cover individual requirements
- adapt to individual physiological status
- improve benefits

Increasing performances (more milk per cow, higher quality)

Improving animals health (better longevity, reproduction, less health problems)

Increasing profit (reducing feeding costs)

For technological farms (mainly milking robots)

### Perception ?

#### • Positive

- Productivity & performances: 21
- Efficiency & reliability: 19
- Individual approach: 12
- Animal welfare: 5

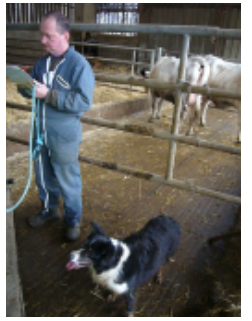
#### • Negative

- Complexity & technical skills: 17
- Efficiency & economical interest (production costs, more concentrate...): 12
- Time consuming : 8
- Other: 3



# French advisors and/or technical sales staff points of view (study 1)

## Precision feeding



**In the future, feeding should be collective (28/43) vs individual (4/43), or both (11):**

- 100 % TMR (11)
- TMR + individual supplementation (18)
- Adapted to each animals and / or groups of animals (15)



**Important to take into account farmers' objectives, expectations and technical skills**



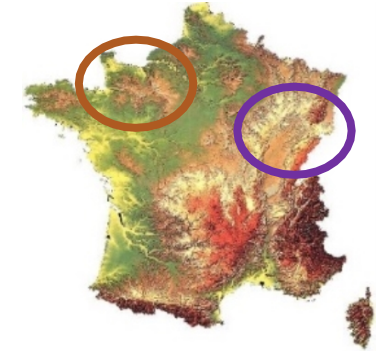
Not for those looking to simplify their system (i.e. 100% grassland and grazing, self-sufficiency for feed)



# French farmer's point of view (study 2)



- Interviews by **Littoral Normand** (16 farms) and **Conseil Elevage 25-90** (5 farms), October 2022 to March 2023
- A very wide range of systems represented: (breeds, forage systems, equipment, etc.)
  - 24 to 215 dairy cows
  - 4 900 to 9700 kg milk/cow/year
  - Concentrate: milking robots (6), automatic feeders (6), TMR (4), manual (5)



## Five points of view regarding precision feeding

No or low interest

High interest

Not for us (n = 6)  
Grass based-  
systems

Why not, but not  
our priority (n = 2)

Why not... but ...  
(n = 4)

System is OK and  
we don't want to  
change (n = 4)

Precision feeding  
is what we  
already do (n = 5)

# French farmer's point of view (study 2)



## Five points of view regarding precision feeding

No or low interest

High interest

Not for us (n = 6)  
Grass based-  
systems

“Not relevant to individualize supplementation (herd level)”

Low production levels, different breeds

Grass and grazing first

Reduce concentrate levels and simplify the feeding system

System is OK and  
we don't want to  
change (N=4)

« Will retire or stop soon: not questioning practices any more »

Too complex

Trust their advisor to calculate and update individual supplementation, considered as an effective way to meet requirements of high-producing cows

Automatic feeders: only a tool for the distribution of concentrates



# French farmer's point of view (study 2)



## Five points of view regarding precision feeding

No or low interest

High interest

Why not, but not  
our priority (N=2)

- « Individual complementation: improving economic efficiency »  
(no waste of concentrates, right distribution to requirements)
- Milking robots and grazing
- Priorities: grazing, forage quality, protein autonomy, concentrate costs,

Precision feeding  
is what we already  
do (N=5)

- « Convinced »: dedicated softwares (milking robot) to adjust individual supplementation according to milk production (decrease costs)
- Automatic feeders or milking robots

# French farmer's point of view (study 2)



## Five points of view regarding precision feeding

No or low interest

High interest



- « Convinced too », but working condition first
- Automatic feeders to control and reduce workload first
- Individual supplementation: OK if it does not require additional time and /or costs
- No milking robots, but automatic feeders

Why not... but ...  
(N=4)



# Conclusion: is there a future for precision feeding for French dairy stakeholders and farmers ?

## In both surveys, precision feeding :

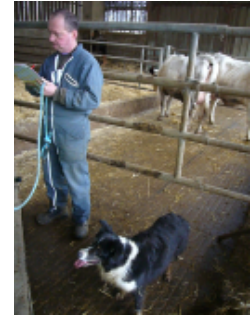
- not for full grass-fed systems
- for farms with automatic feeders, milking robots...
- not a priority (energy and input costs, expectations from society, climate change, renewal of generations... etc).

and in fact, « *not so clear of what it means really, different between people* »

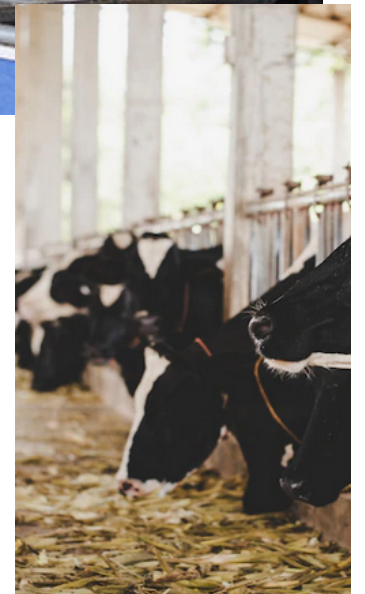


**No real consensus on the definition of precision feeding, confusion between individual supplementation and precision feeding**

EAAP 2024 or 2025



# Thank you for your attention !





# Knowledgments

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Special thanks to all people who participate to the inquiry and share their point of view



A full description of the HARPAGON project is available at (in French): <https://idele.fr/harpagon/>

