

TDN WEBINAR SERIES

Veterinary Insights on Cow-Calf Contact Systems

15 September 2025



Transformdairynet.eu



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Register for the *TransformDairyNet* newsletter



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Episode 1



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Our speakers



Siobhan Mullan



William
McCarthy



Ulrike Sorge

AGENDA

1. Welcome and “*General presentation of TransformDairyNet and its aims*”
2. “*Switching from conventional to CCC rearing*”
3. “*Pathological impact and solutions in CCC systems
(Case study of Mastitis)*”
4. Q&A

TransformDairyNet

Working together to upscale
Cow-Calf-Contact dairy
production and beyond

Prof Siobhan Mullan, UCD; Co-ordinator



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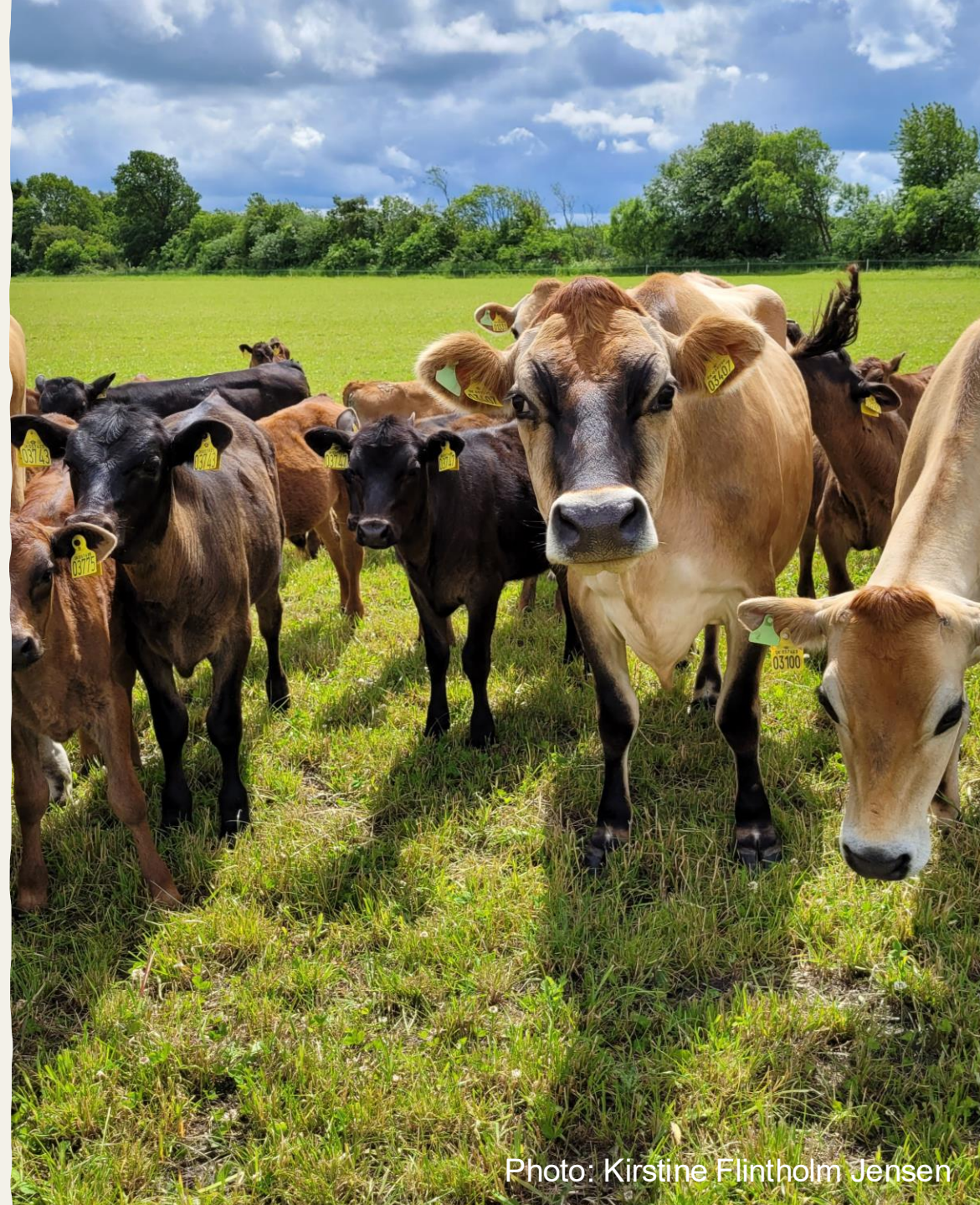


Photo: Kirstine Flintholm Jensen

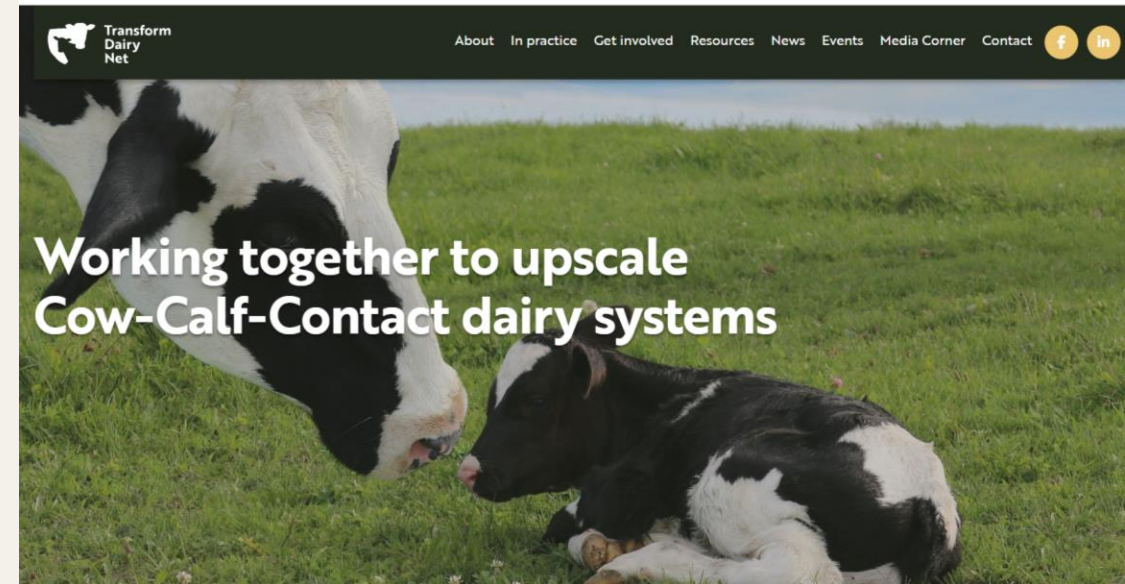
Project details

Duration: 3 years ; June 2024 - May 2027

HORIZON Coordination and Support Actions (Thematic network)

Total budget: €3 million

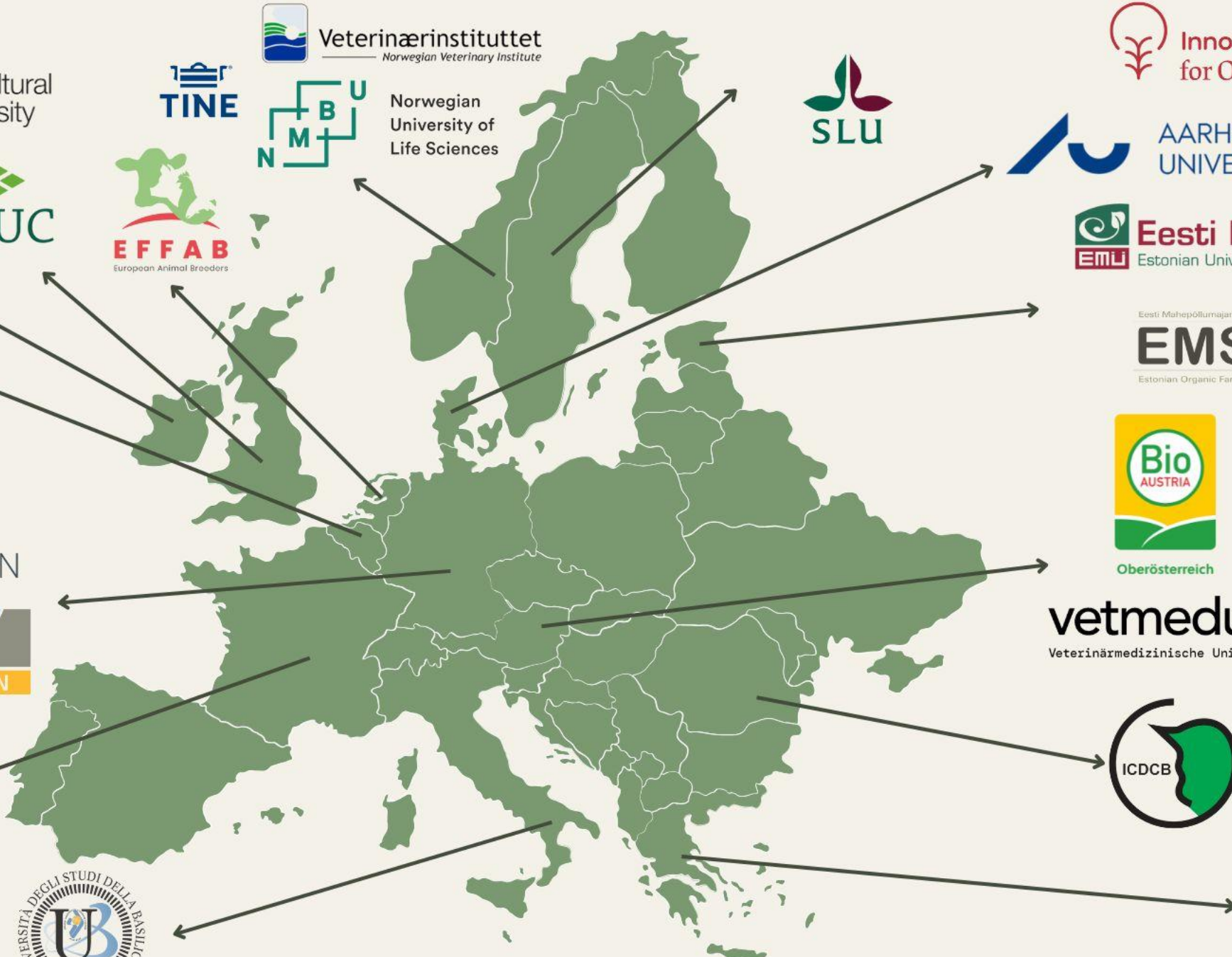
26 partners from 14 countries



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<https://transformdairynet.eu/>



REVOLVE



SCHWEISFURTH
STIFTUNG



Objectives

1. Speed up CCC adoption: European network to address farmers' needs and knowledge gaps, helping more farms keep calves with cows for longer

- Farmer survey
- Scientific review
- CCC Standards and CCC regulation working groups

2. Boost innovation: Use National Innovation Practice Hubs to address farmers' needs and challenges by generating and testing new ideas, including developing new ways to measure and improve sustainability in CCC systems.

- New model for CCC sustainability

3. Increase impact: Share CCC knowledge widely by creating digital tools and materials that make it easier for farmers to adopt these systems, using trusted communication channels across Europe.



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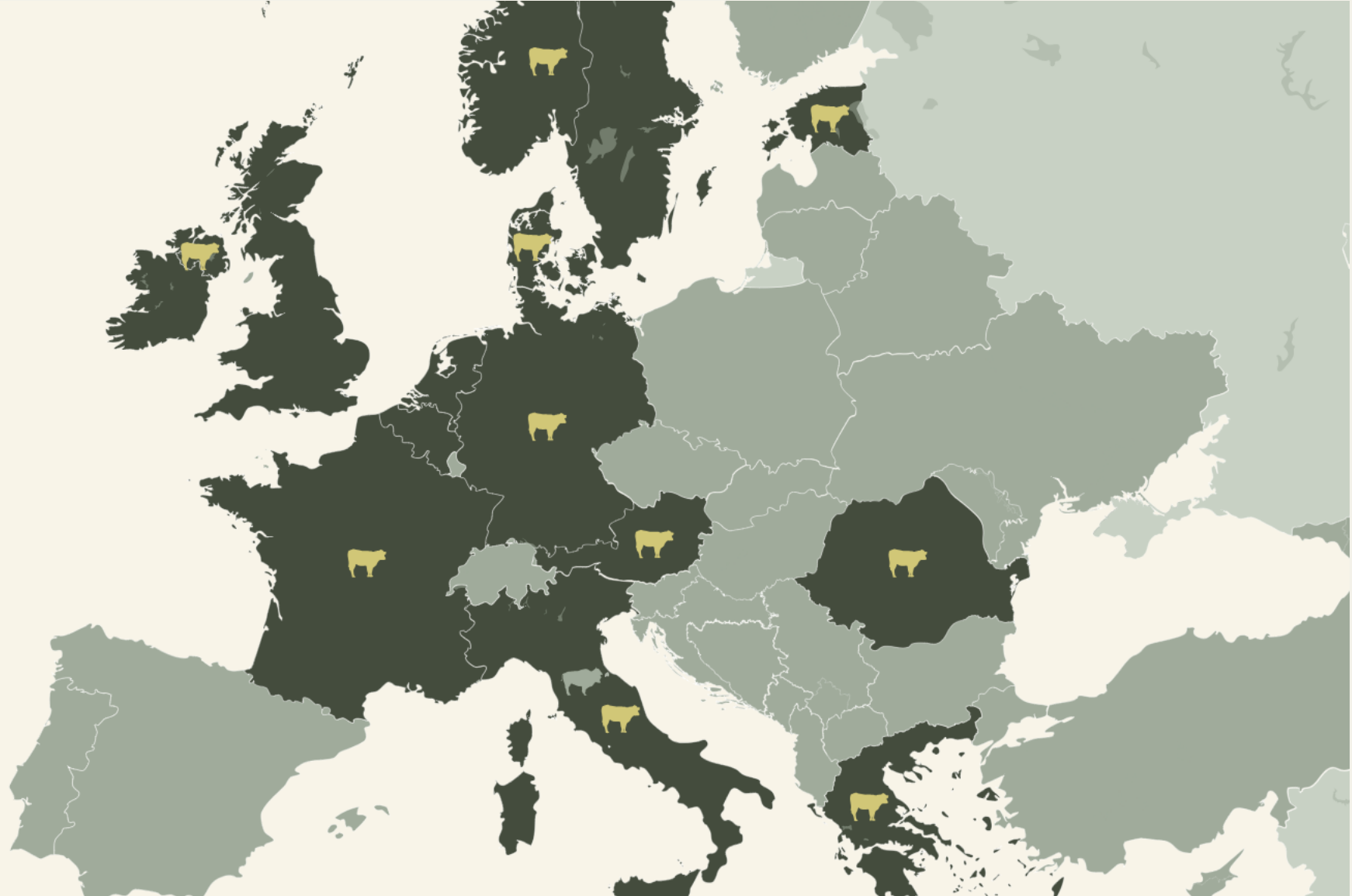
National Innovation Practice Hubs- the heart of TDN!



Dairy cow



Dairy buffalo



Variable uptake of CCC



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Norway & Sweden

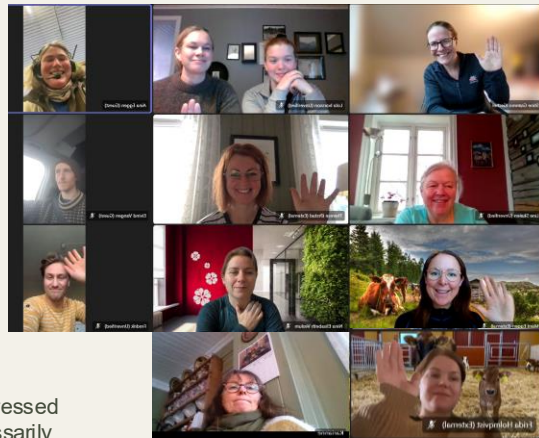
Facilitator: Stine Grønmo Kischel, TINE

2 physical meetings

- Sweden – including 2 farm visits
- Norway – including 1 farm visit

4 online meetings

- Introduction to the group
- Innovation wheel- priorities for Living Lab
- AMS; with 3 experts
- Separation; with 3 experts



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TransformDairyNet - Den norsk-svenske NIP gruppa

Privat gruppe · 19 medlemmer

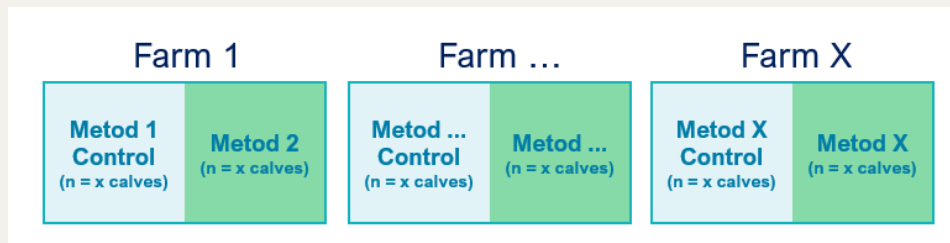


Norway & Sweden

Living Lab: “Impact of different management practices and methods on separation stress”

Compare different management and methods

- Between and within farms



- Effect on
 - Calf weight
 - Calf behaviour

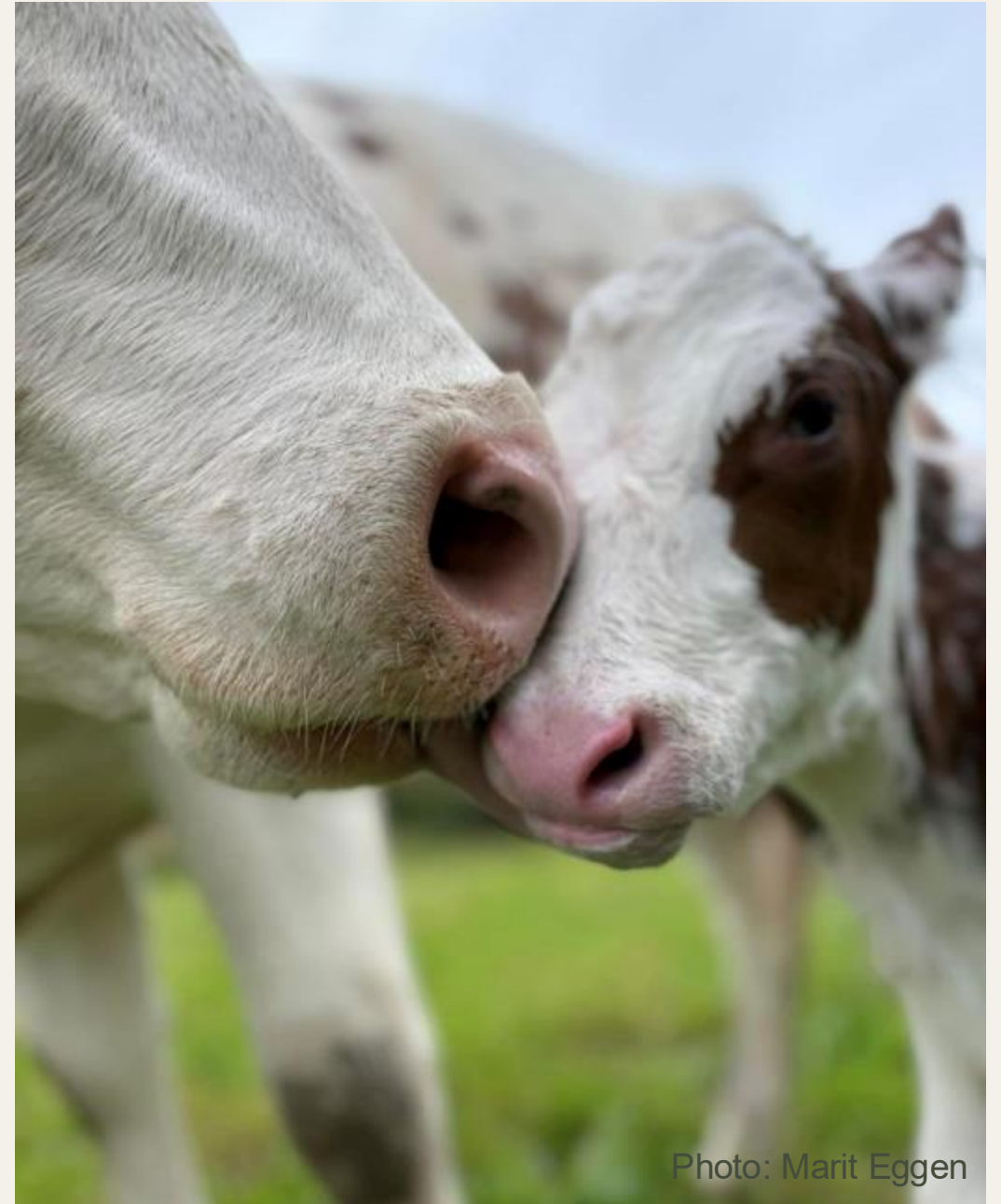


Photo: Marit Eggen

Norway & Sweden

Best thing about the group:

👍 Positive and engaged!

The challenge of running the group:

✈️ The distance and the language!



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Huge variety of CCC across Europe!



Photo: Susanne Waiblinger



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Photo: Saro Rutter



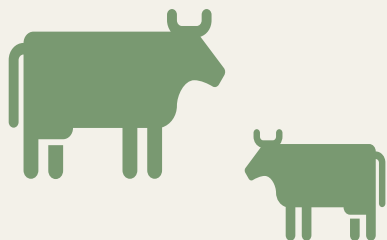
Video: Annie Crook

Definitions

Methodological terminology and definitions for research and discussion of cow-calf contact systems

Janja Sirovnik^{1,2}, Kerstin Barth³, Daiana de Oliveira⁴, Sabine Ferneborg⁵, Marie J. Haskell⁶, Edna Hillmann⁷, Margit Bak Jensen⁸, Cecilie M. Mejdell⁹, Fabio Napolitano¹⁰, Mette Vaarst⁸, Cynthia M. Verwer¹¹, Susanne Waiblinger², Katharina A. Zipp¹² and Julie Føske Johnsen⁹

Dam-calf contact system



Foster cow system



Cow-calf contact systems



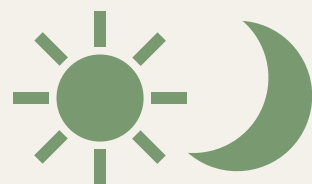
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Thanks to Sabine Ferneborg for these slides!

Definitions

Methodological terminology and definitions for research and discussion of cow-calf contact systems

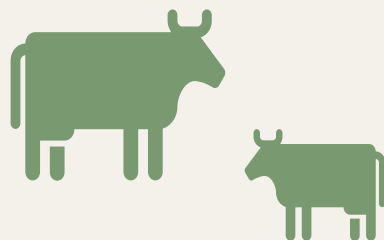
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Full-time contact

Full contact

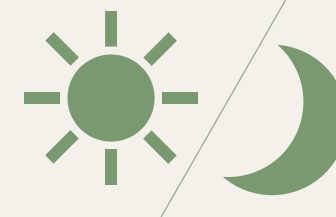
Forced separation only during milking and/or feeding



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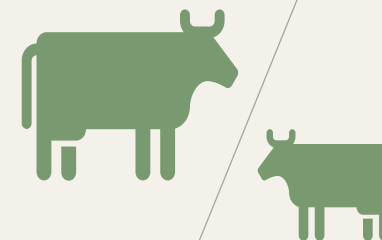


Part-time contact



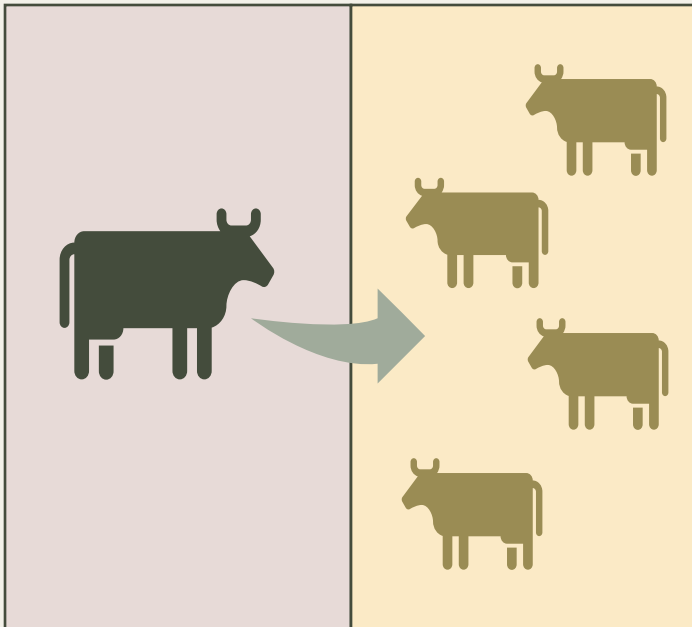
Partial contact

Forced separation for longer periods

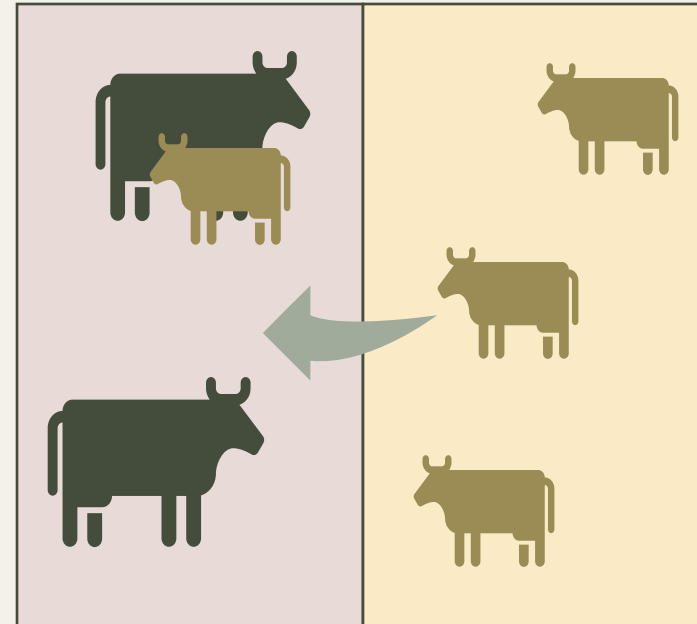


Housing solutions

Cow-driven



Calf-driven

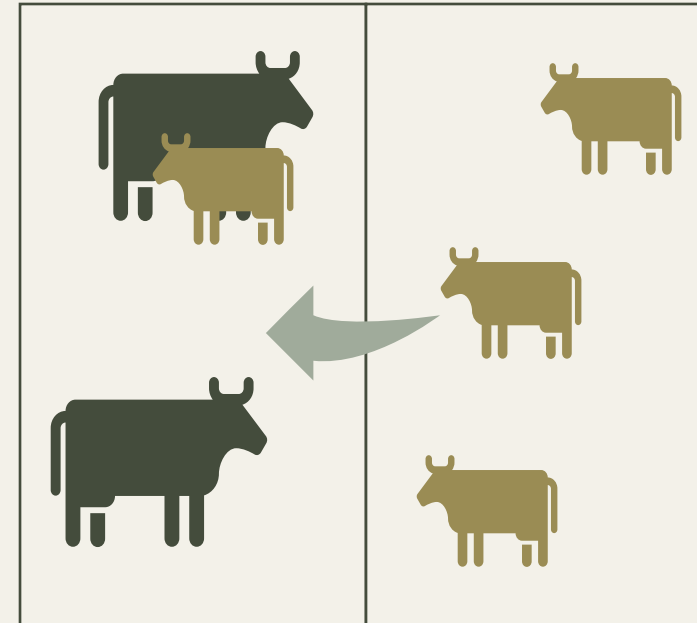


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Calf driven systems

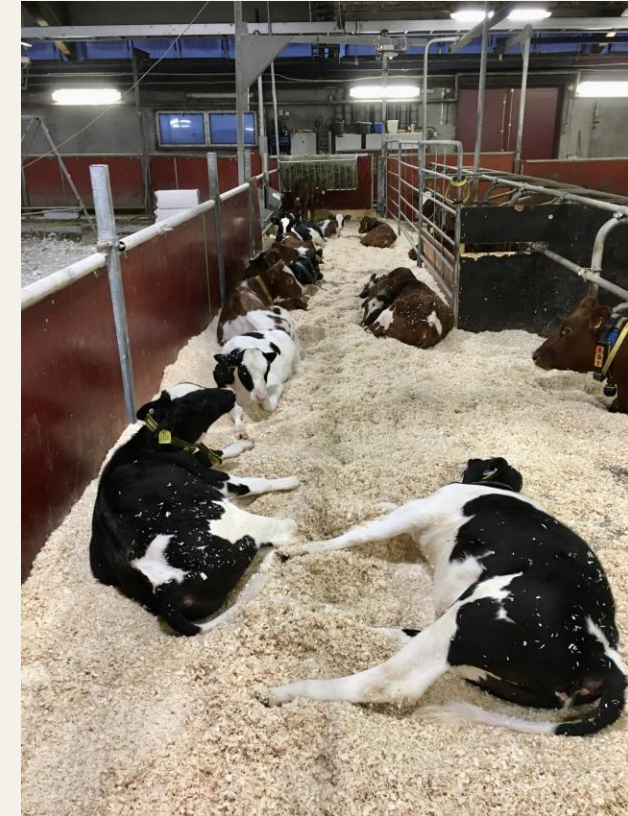
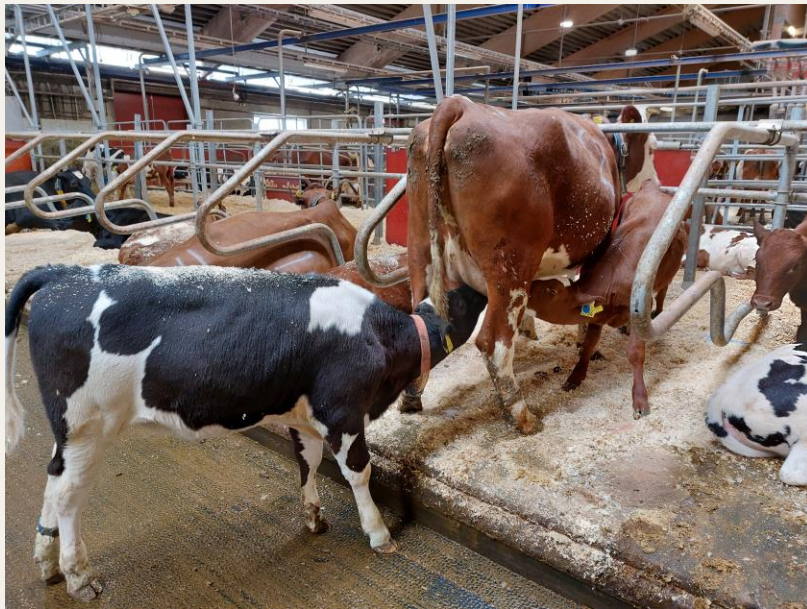
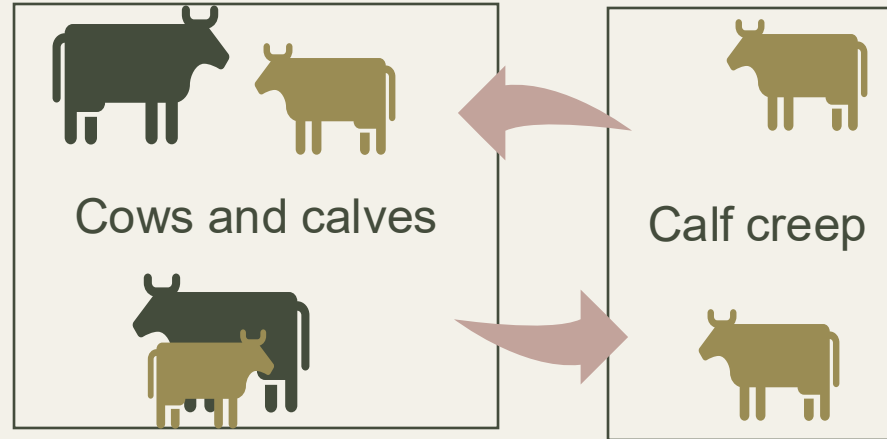
Common in free contact systems
Full-time or part-time

Calf creep- heat/ bedding
Access to loose housing system/ cows
during the whole or part of the day
Resources (cubicles, feed, water) are
often shared



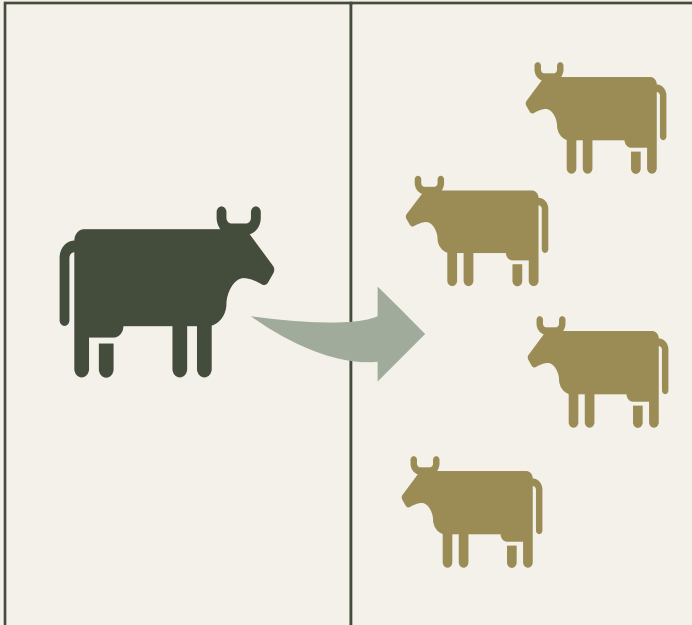
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Calf-driven systems



Photos: Claire Wegner, IFJ

Cow driven systems



Less common

Easier to limit contact between cow and calf and control resource distribution

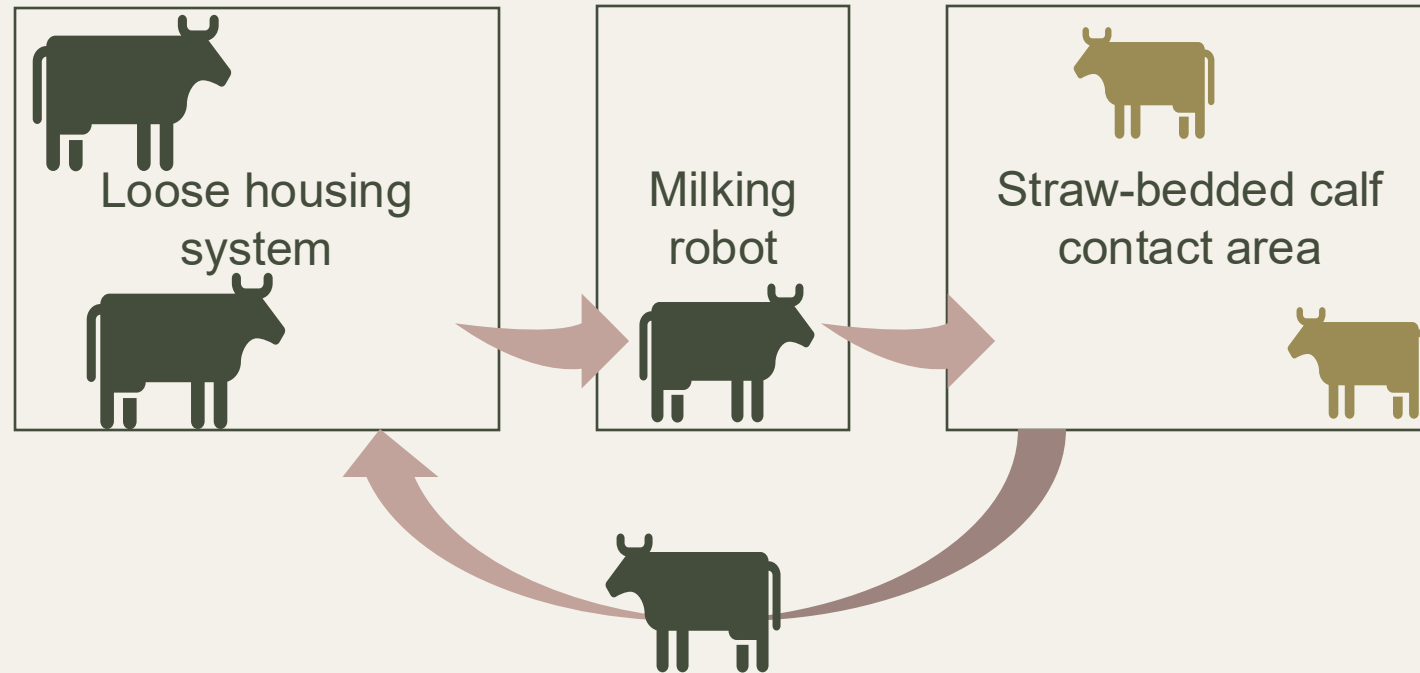
Incorporates a gate that can be:

- Manual
- Smart-gate
- Milking robot



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Cow-driven system



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Other variables...

Weaning age, process

Breed

Pasture access

Organic status

Milking system/ frequency



Everyone agrees- early management is crucial!

Ensure colostrum intake and suckling

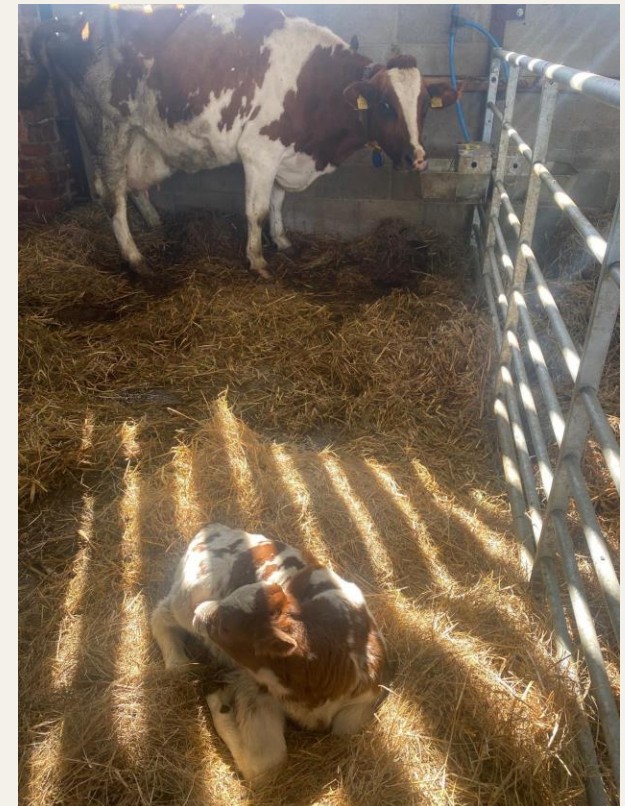
Ensure bonding

Ensure acceptance of human presence

Set up expectation of return from milking to the calf



Photo: Sue Bullock



Sales and Marketing

Some people are selling CCC milk into the normal systems!

Focus on CCC
or
Focus on other attributes



HOME

ABOUT US

WE DO IT DIFFERENTLY

KALVER LIEFDE

OUR FARMERS

POINTS OF SALE

CONTACT

OPEN DAY

COW AND CALF
ENJOY BEING
TOGETHER
LONGER
WITH CALF LOVE

ORGANIC CALF-BY-COW MILK &
YOGURT

KALVER LIEFDE

KALVER LIEFDE

KALVER LIEFDE

OPENDAG
4 OKTOBER!

KOM JE ONS 3-JARIG
BESTAAN MEEVIJEN?
VOL = VOL!

SCHRIJF JE NU IN

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Keeping dairy cows and their calves together

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www.theethicaldairy.co.uk

10000

the Ethical DAIRY

Traditional cheese made with unpasteurised organic milk from our Cow with Calf dairy.

Treating the animals, our environment and the people who work here with respect and kindness.

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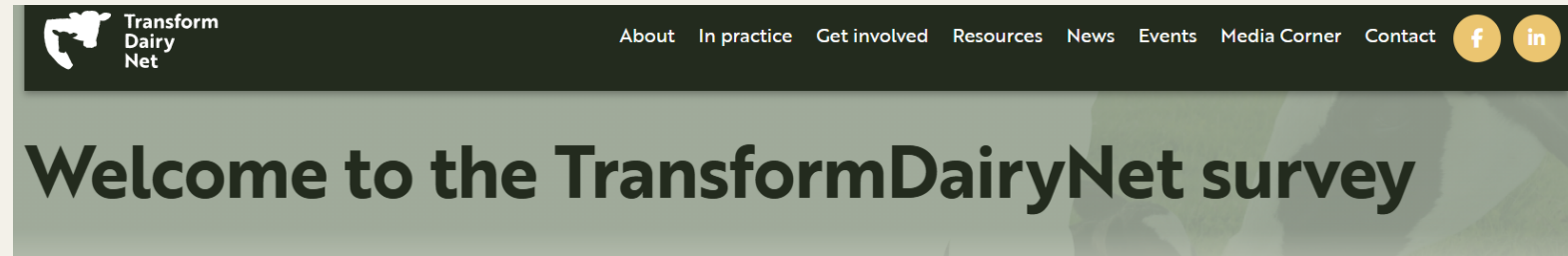
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How can you get involved in TransformDairyNet?

Go to our website!

<https://transformdairynet.eu/>



Sign up for our newsletter!

Take the survey- there's one for vets, farmers, advisors and more to follow!

Promote the survey!

Join a National Innovation Practice Hub- contact details on website

Start your own National Innovation Practice Hub!

Come to our European Meeting in Romania in May 2026!

Volunteer for the project!



Calf raising in a Cow-Calf Contact setting - Lessons learned

Ulrike Sorge

Dr. med. vet., MSc, PhD, Diplomate ACVPM, FTA Epidemiology

Bavarian Animal Health Services



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Bavaria

- Around 1.1 Mio. dairy cows
 - ~ 22 000 dairy farms
 - Average herd size: 45 cows
 - 70 % Simmental
 - ~ avg. bulk tank SCC: 167 000 cells/ml
 - ~ 7800 kg/cow/yr
- 3% of dairy farms use cow-calf rearing
 - Predominantly nurse cows
 - No more *Pasteurella* or *Mannheimia* IMI than „normal“ herds Bavarian Benchmarking Study 2023-2024



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Family owned farms

- 8 conventional farms
- Parlour & automatic milking systems
- Herd size: 48 to 140 cows
- Year round calving
- Initiated by creamery but farmers agreed on terms
 - colostrum (4L+) with bucket
 - Nurse cows or own dam



Challenges

- Existing barns were not built with cow-calf rearing in mind
 - Space requirements:
 - How many calves per week?
 - Are there peak calving times?
 - Will there be enough same age calves per cow?
 - Safety first:
 - Floor, head gates, water troughs need to fit calves
 - Micro climate for calves
 - Escape routes for calves from cow cubicles
 - Other:
 - How do you keep bedding clean easily



What was needed?

- To find excellent nurse cows
 - Calm cows (safety first)
 - Allow other calves to nurse
 - Enough milk for 2-3 calves
 - Good udder health (e.g., no *Staph. aureus*)



What was needed?

- Making sure calf had enough colostrum
 - Ideally 1x in bucket
- Patience and time to ensure that calf suckles at dam
- Several times per day assesement of cows and calves
 - Did they drink enough? (belly fill)
 - Interaction with calves
 - Assess udder of cow
 - Have a place to fixate cows



Option 1

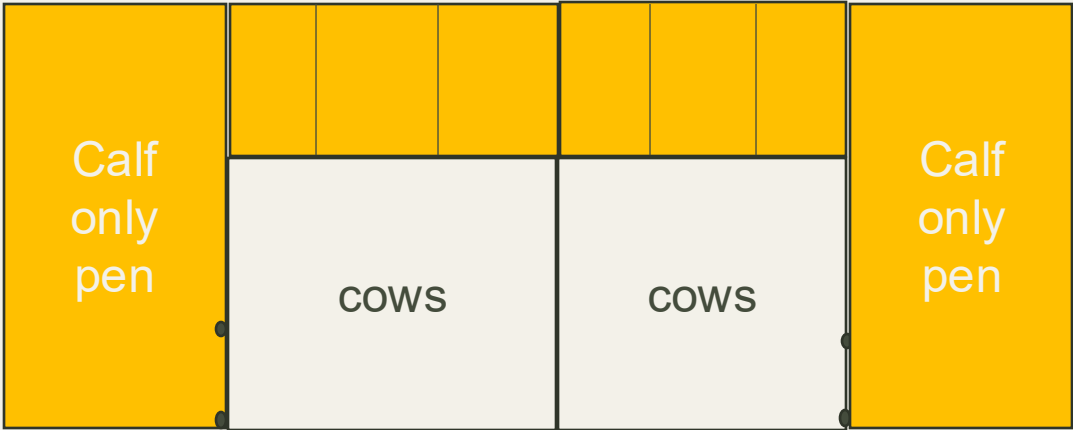


Cow visits calves 2x per day



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Option 2



Option 3



Hay for calves			
Gr. 1	Gr. 2	Gr. 3	weaned

Beed bunk



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Option 4 (how it started)



Older calves
and cows

Small group with
youngest calves



Former calf group (used to feed ad libitum with automatic feeder)



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Option 4 (how it is going)



Bavarian Animal Welfare Award 2024



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Main Challenges

- Weaning noise & stress
 - Keep calves with their „buddies“
 - Keep cows and weaned calves close
- Cows may show impaired milk letdown upon entering AMS for a couple days





Role of the Veterinarian

- Be the „creative“ support to find animal friendly solutions during transition period
- Farmers report:
 - fewer treatments
 - calves are fitter
 - „Diarrhea may happen“, but calves are fine

Conclusions

- Cow-calf contact solutions work on Bavarian farms
- Critical to ensure healthy calves:
 - Space, hygiene, and daily assessment of animal health
- Costs (Time, bedding material, environmental laws etc.)
- Generally positive assesement from a farmers perspective
 - Animal behavior and fitness of calves much improved



About TransformDairyNet

Funding:

Bayerisches Staatsministerium für
Ernährung, Landwirtschaft, Forsten und Tourismus



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Get in touch

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Thank you for your attention



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Pathological impacts and solutions in CCC systems

William McCarthy BVMS MRCVS
Galloway Vets



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Introduction to Galloway Vets

Galloway vets

- Mixed species first opinion general practice since 1867
- 8 vet practice
- Located in Dumfries and Galloway in southwest Scotland
- Predominately farm animal caseload
 - Mostly large scale intensively managed dairy farms
 - Prioritize herd health and welfare to maintain productivity



Introduction to the Case-Study Farm

- 120 cow organic dairy herd
- Split block calving with roughly equal spring and autumn groups
- All replacement heifers are bred on the farm
- Pioneers of the Cow Calf Contact system, currently been operating since 2016
- Calves are reared on their dam until around 6 months old
- Cows are milked once daily while suckling and twice daily after weaning
- Milk is used to produce artisan unpasteurized cheese on site



Challenges of the Cow Calf Contact system

Calf health

- Neonatal diarrhea and pneumonias
- Colostrum is key to success

Fertility management

- Lactational anestrus

Udder health

- Reduction in clinical mastitis?
- Calves as fomites for contagious pathogens?



Udder health at the farm

Clinical mastitis has always been well managed at

Bulk tankomatic cell counts were consistently between 175 and 200k cells/ml

- Significant variation in individual cows particularly across parity groups
- Seasonal variation depending on calving pattern

Good milking routine with high standard of hygiene

- Pre and post milking disinfection

Tandem milking parlor allowing individual attention to each cow



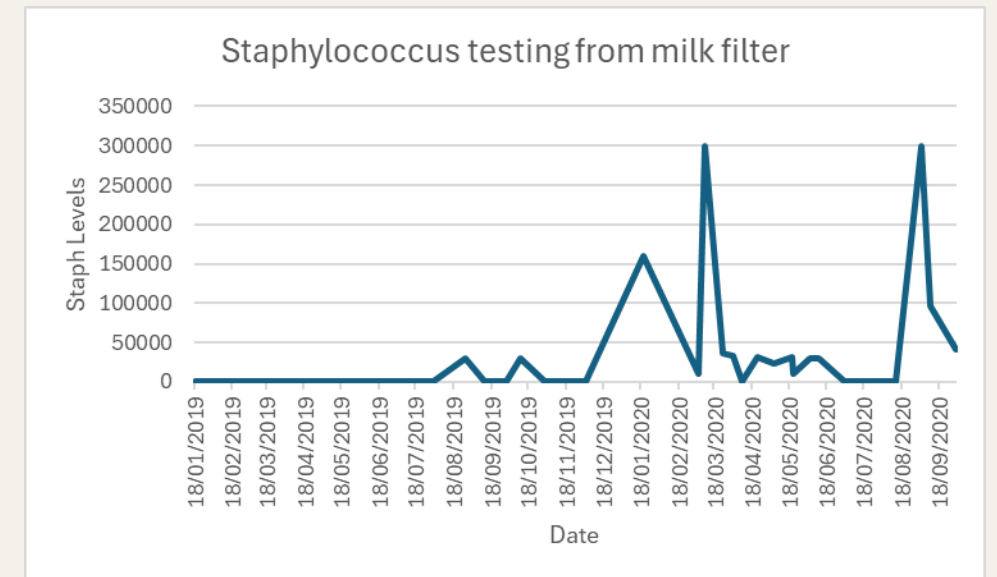
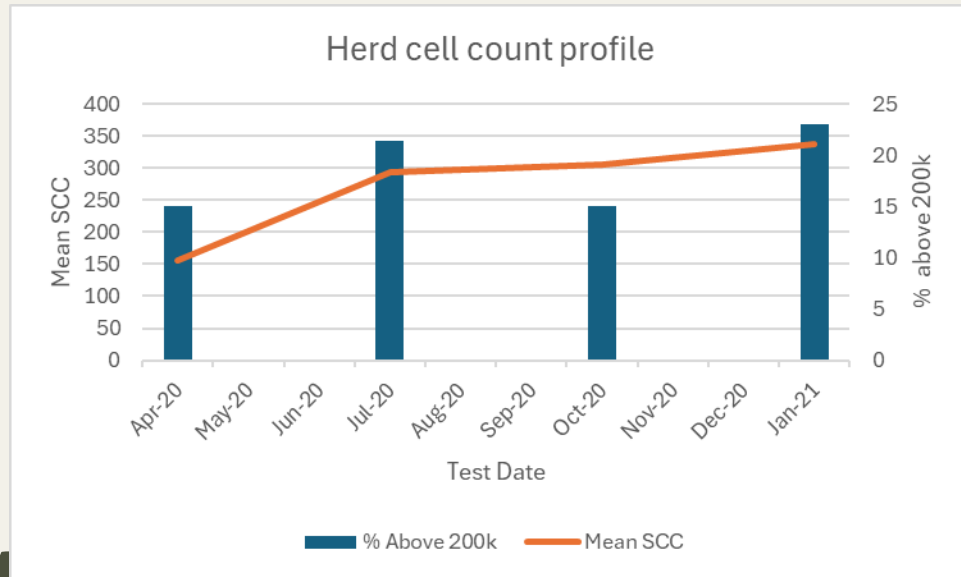
The changing picture

Throughout 2020 bulk tank somatic cell counts increased,

- consistently around 340K by 2021

Isolates of *S. Aureus* increased in mid maturation cheese samples

Milk filter samples repeatedly returned high levels of *Staphylococcus* species.



Investigation

Principals of any mastitis investigation apply equally to CCC system

Classify the problem

- Lactation or dry period origin
- Contagious or environmental pathogens

Most cows developed a new Intramammary Infection (IMI) during lactation

Cheese cultures regularly identified *S. Aureus* within the herd

Widespread IMIs as identified by SCCs across the herd

xx had a Contagious Lactation mastitis pattern

Investigation

Data analysis

- Individual cell count data
- Quarterly milk recording
- Monthly non-recorded tests between
- Manual review of each cows' cell count history required

Review on farm conditions

- Good cow environment
- Good milking routine
 - Good stimulation of milk letdown
 - Minimal overmilking
 - Good standard of hygiene
- Potential for calves to act as fomites when cross suckling

Calves as fomites?

Calves often suckle more than one cow

S. Aureus colonizes mucosal surfaces

- Nose, throat, intestinal tract

Do calves deposit bacteria on teat skin during suckling?

- Similarly to liners during milking

Calves suckle multiples times daily

- Repeated opening of the teat sphincter
- No 'post milking' disinfection
- Does this facilitate invasion of the udder?



Plan for control

Control strategies as conventionally managed herds

- Identify infected cows
 - Treat infections where possible
 - Increased dry period and antibiotic DCT
 - Remove from the herd if necessary
- Reduce transmission between cows
 - Enhanced hygiene measures at milking
 - Changed liners
 - Post milking disinfection
 - Post milking cluster disinfection
 - Impossible to reduce the risk of transmission due to cross suckling

Plan for control

Cows grouped into 3 categories

- Serial SCC data
- Stage of lactation and gestation status

Risk category	Number of cows	Action
Low	76	Continue milking
Medium	16	Segregate from the cow and calf group to limit potential spread
High	18	Remove from the milking herd to limit transmission to other cows and reduce S. Aureus levels in the bulk tank.

Removal from the herd meant drying off immediately, becoming a suckler cow or culling

Outcomes and ongoing management

Outcomes

- Bulk tank SCC fell quickly
- New infection reduced
- S. Aureus isolates in cheese reduced significantly

Ongoing management

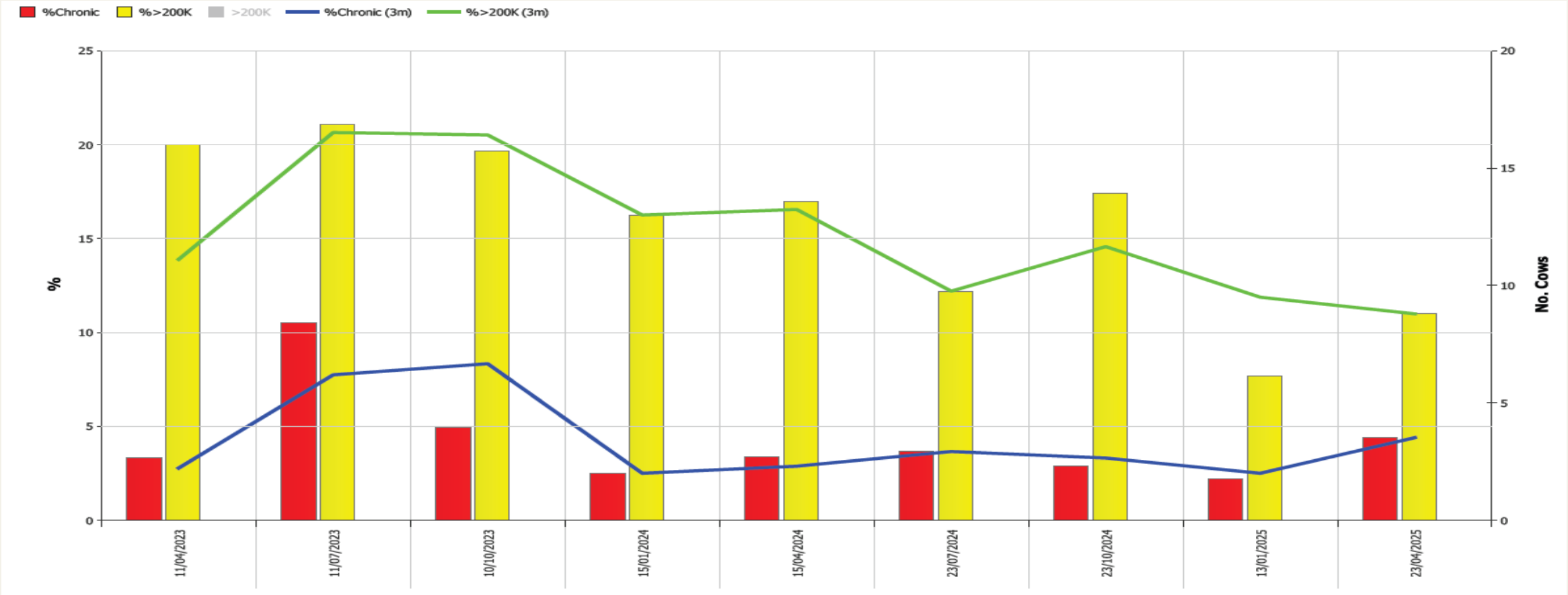
- Identification of high-risk cows
- Quarterly milk recording
- California mastitis testing after calving



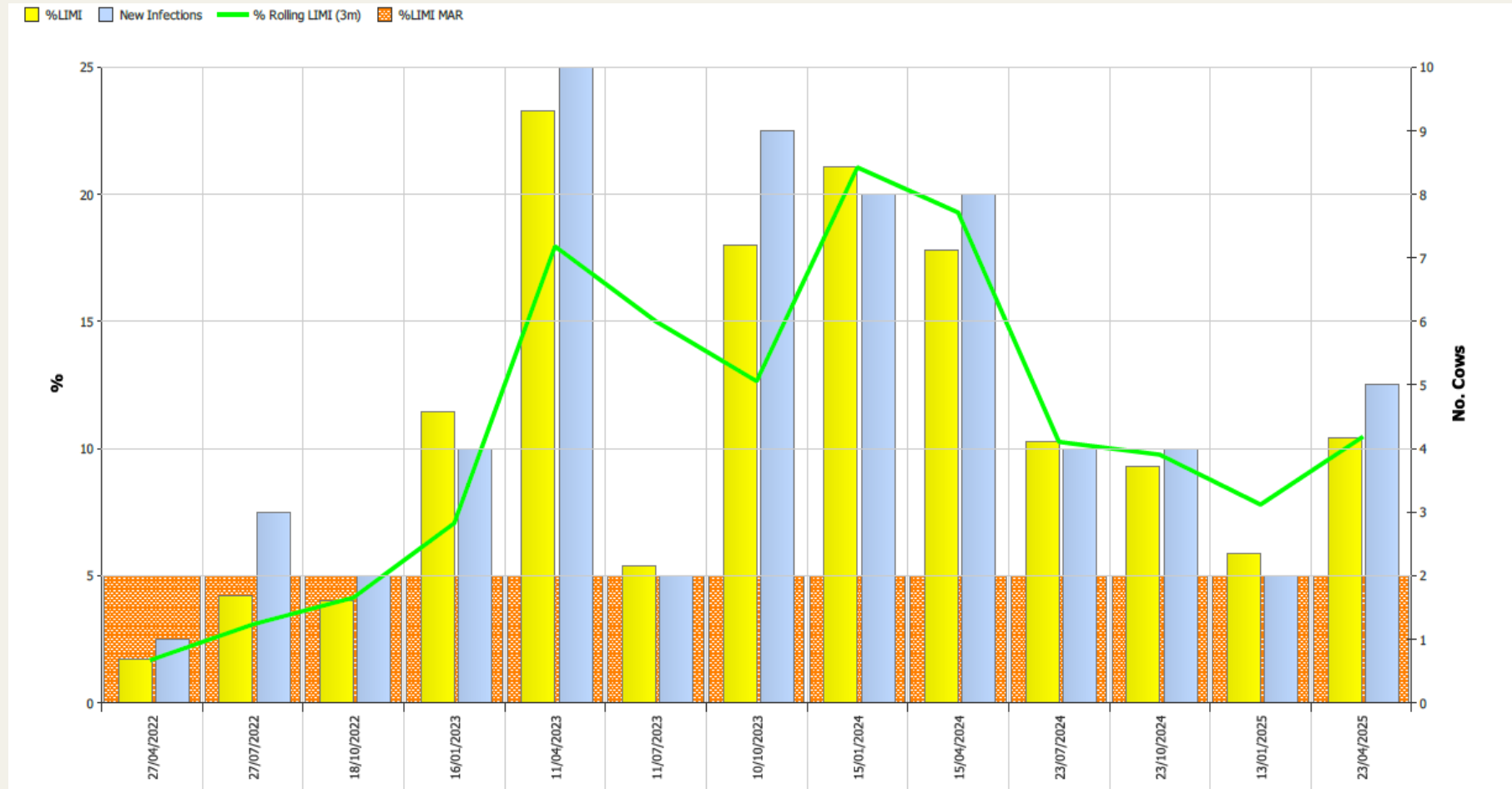
High risk cows are segregated from the milking herd and rear calves as suckler cows

- Most common reason for removal from the herd at xx

Somatic cell count profile



New IMIs during lactation



Summary

Veterinary approach to CCC systems is no different conventional farms

- All farms are individual and have their own risk factors
- Principals are all the same
 - Attention to detail
 - Identify the risks to each unique farm
 - Adopt practical and pragmatic control strategies



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