

Innovationscenter
for Økologisk Landbrug

Cow and calf together

Barn Design and management in Danish Organic Dairy Farms with Cow-Calf-Contact systems

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Developing Cow-Calf-Contact systems since 2018

Collaboration...

between Farmers, Dairies, Universities, Companies and Innovation Centre for Organic Farming

GrazyDaiSy 2018-2021

H2020 Eranet Core Organic founded project
8 Countries involved (Denmark, Norway, Germany, Poland, Estonia, Turkey, France, Holland)

Cow with Calf - organic responsibility 2020-2021

Production Fund founded project

Mother-bonded Calf Rearing in organic farming 2019-2022

GUDP; Organic RDD project

Overall purpose:

Development of good practice, networking in & between countries, science, spreading of new knowledge



*H2020 Eranet
CORE Organic
Cofund projekt 727495*

Mælkeafgiftsfonden
Fonden for **økologisk landbrug**



*GUDP; Organic
RDD-4;
34009-18-1387*

How did it start?

Small farm/single farm scale experiences

Trip to Holland in 2018

Farmers response:

- Wow - It is actually possible
- They are doing it wrong
- We can do this better

Project activities:

Stable school started during 2019

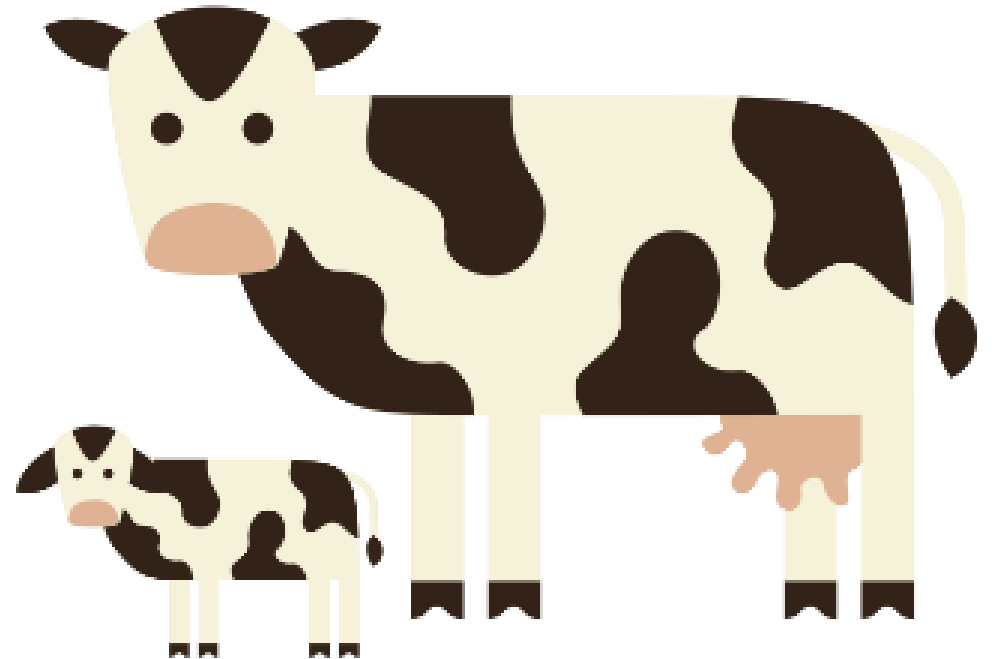
Scienceresults, open house, workshops, video, online-network, articles and more...



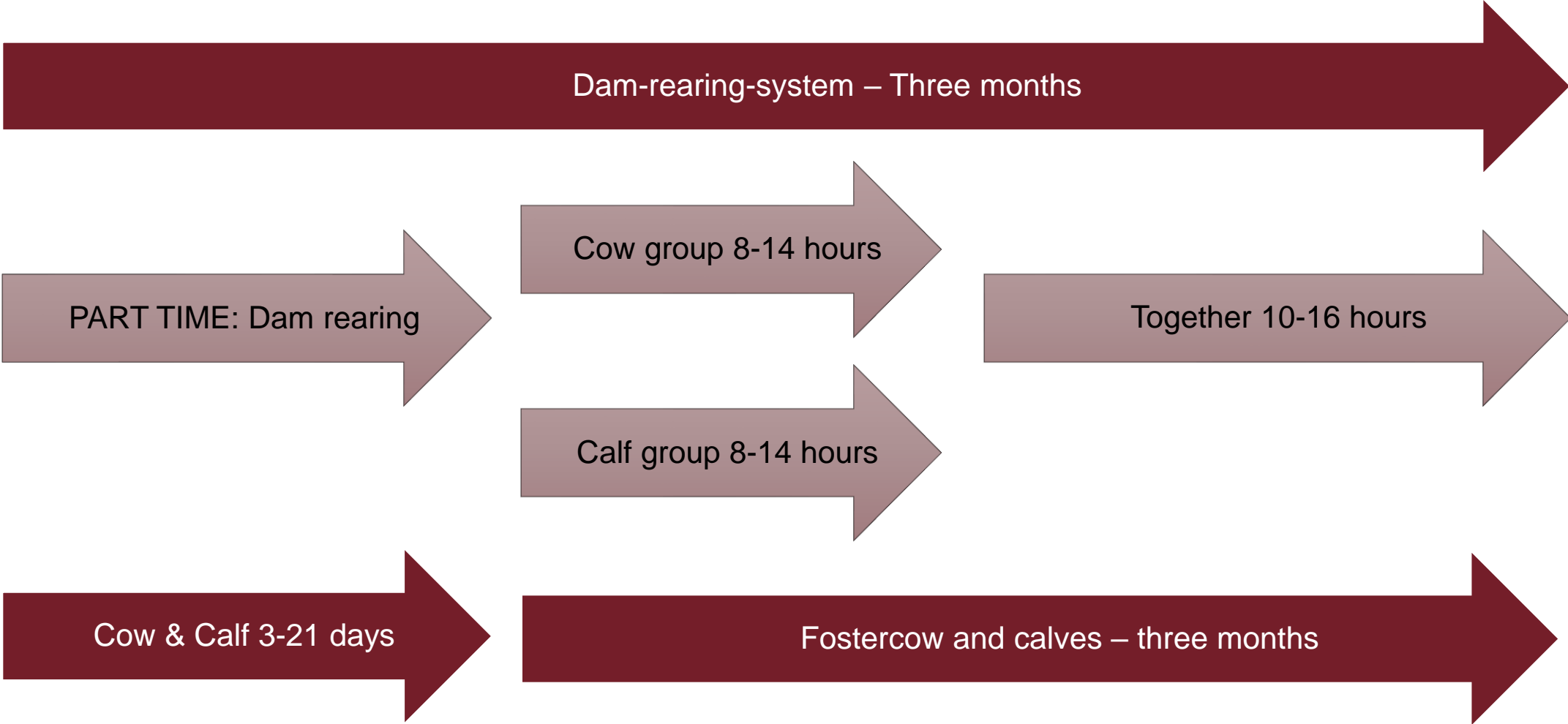
Status 2023

- 20-25 farms have developed functioning cow-calf systems in Denmark
- Most of them are Organic Farms
- Primarily “foster-cow-systems” a few “dam-rearing-systems”
- 4 farms with robots (Meie, Anders, Brian, Torben)

- There is a very positive interest in being part of the development
- Farms from 20-900 cows shows interest!



Full time-, Part time- and Fostercow-systems



Development in Denmark

From practice (how to do this...)
To future-/system-thinking (new
barn/fielddesign, ethics, responsibility)

Solutions found on:

- Bonding and debonding practice
- Calves health
- Logistics
- Grazing.

On going discussions:

- Milk let down (sharing?)
- Surplus calves
- The cows welfare
- Design/concept and sales.
(what does the consumer want?)



Deep bedded area for fostercow rearing

Time in each area

- Single calving pens: Bonding and colostrum (dam) 2-3 days
- Group pen with calf creeps 7-21 days (Dam/calf)
- Single pen: Bonding with fostercow 1-7 days
- Group pen with calf creeps 3-4 months
- Calf group pens: debonding 1-4 weeks

Motivation:

More milk for the farmer

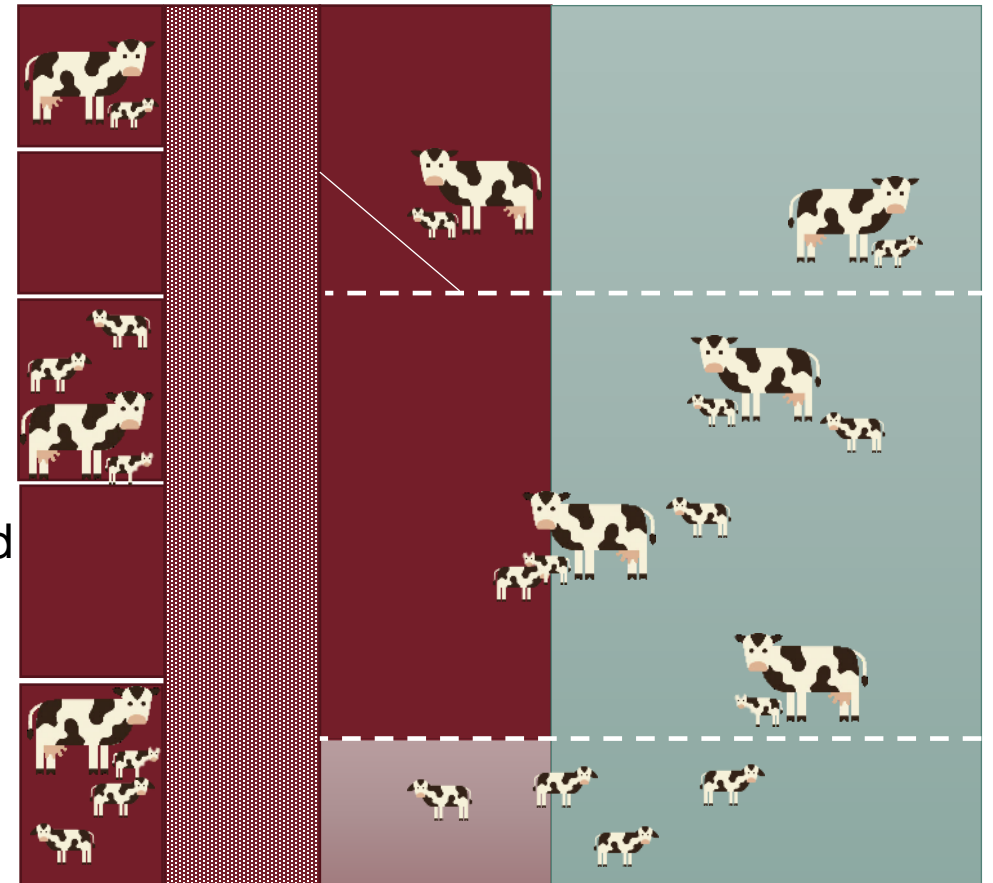
Fostercows and calves can be places in another barn/field

More space to do a gradual debonding

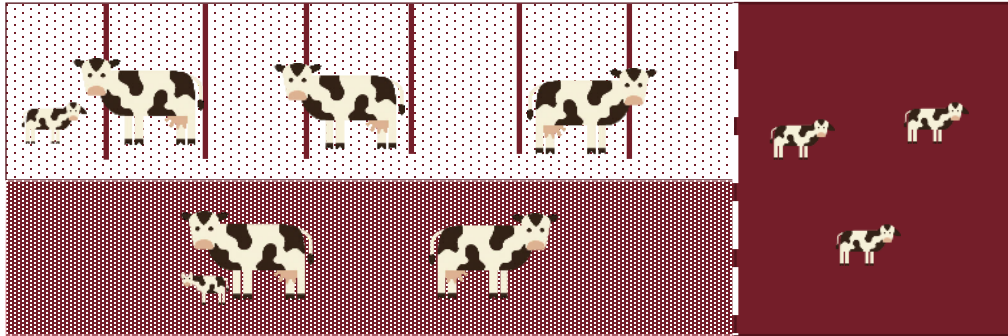
Ulempe:

Two bondings/debondings = possible stress

Space and straw demand grows



Loose housing – cubicles and deep bedded area



Motivation:

Lower the need for strawbedding
Simple system – easy to manage

Challenges:

More work to keep cubicles clean
Ekstra cubicles
How much "double"space is needed?
Solid >< slatted floors



Deep bedded system for Dam rearing

Time in each area

- Single calving pens: Bonding and colostrum 2-3 days
- Group pen with calf creeps 3-4 mdr. Full/Parttime
- Calf group pens: debonding 2-4 weeks

Motivation:

Simple and natural system

Only one debonding period

Possible to manage grazing in combination

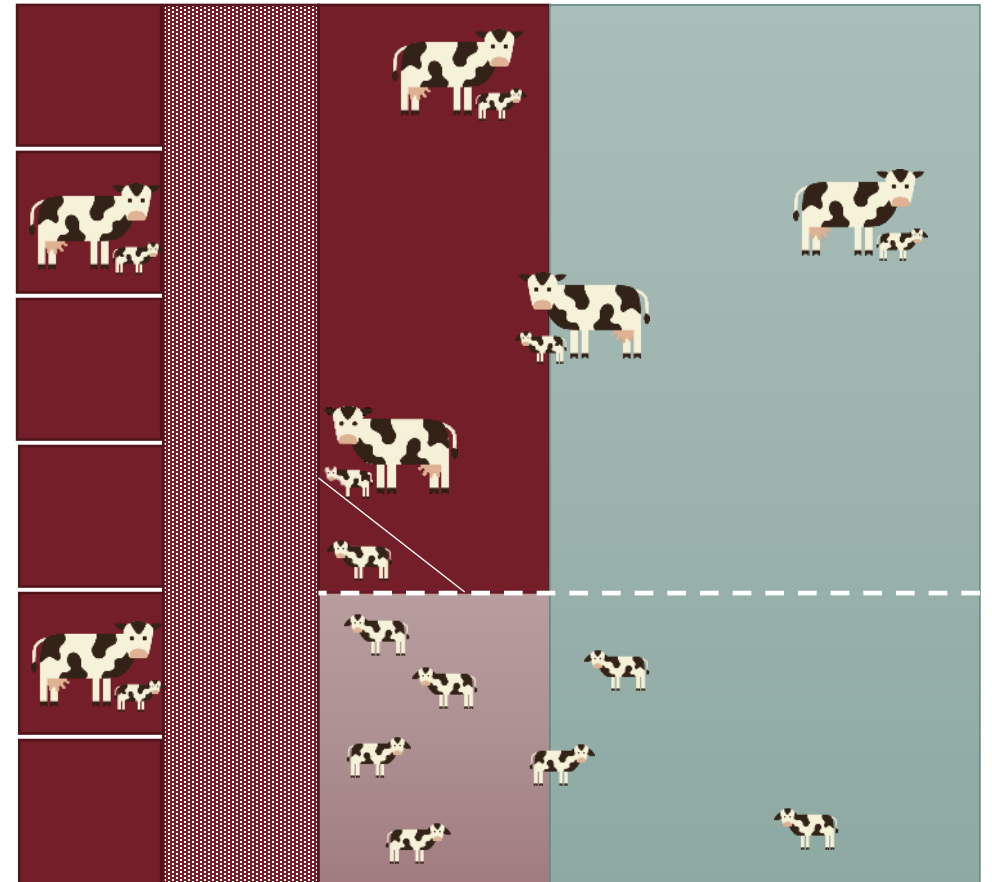
Challenges:

Separation of cow and calf at milking

The calfs milkintake $><$ less milk for the farmer

Space and straw demand is more than with cubicles.

Debonding needs management/ or is abrupt



Room for both cows and calves

Danish recommendations/law – not enough space!

7-8,5 m² per cow

1,5-2,9 m² per calf weighing up till 200 kilos

Sum: 11,4 m²

Practical experience in DK

GROUP HOUSING

Sum: 12-16 m² per cow with one calf

Sum: 20-25 m² per fostercow with 2-3 calves

Single calving boxes ind fostercow systems:

More boxes because of "double purpose"
(calving and bonding time)

Grazing logistics

A challenge in existing barns

Fostercows with calves gives more possibilities



Conclusions and future considerations

Stall design – think safety for people, calves and cows. Headlocks, escape possibilities and gates.

Shelter for smallest calves in open barns

Drinking possibilities in calf height

Grazing logistics (Cows max 1 week in barn)

Brushes

Separate feeding of calves

Separate resting area for calves

Space space space

Full time/Part time – how can we be sure to get milk for the farmer?



The current project: "Decision Support in Cow-Calf Contact Systems"

The aim is to ensure animal welfare in organic milk production with cow-calf systems by investigating and improving available decision support, thereby achieving good welfare, reducing stress during changes, and better meeting the behavioral needs of cows and calves.

The project runs throughout 2024



Three workpackages running through 2024

Sensors for calves

Opportunities for **electronic management systems** to monitor calf well-being in cow-calf systems.

- Survey of farmers wants
- Collaboration w. sensor companies
 - Application of calf sensors on host farms
 - Behavioral observations
 - E.g. 6h detailed beh. obs. for each of 20 calves.
- Analysis of data w/ company

Weaning and separation

Exploration of innovative weaning strategies as well as future possibilities of software for weaning using **electronic management systems** to recognize weaning stress

- Continued work on host farms
- Gather data on weaning/separation dates
- Analyze response with sensor data on both cows and calves
- Monitor length of reaction and best behavioral indicators

Barn layout

Investigating innovative barn designs and experiences with different space allowances, to design, draw and discuss 2-3 different housing systems for cow-calf contact.

- Collect experience and data from existing barns built with cow-calf contact in mind
- Workshop with barn design experts producing drawing suggestions

Dissemination



Erfaringer og inspiration

Facebook community:

Ko og kalv samvær – gruppe til erfaringsudveksling

Homepage: Research, practical experience, videos and more (in Danish sorry)

<https://okologi.dk/viden-om-oekologi/landbrugsproduktion/kvaeg/ko-med-kalv/>

[KALVvedKO \(icrofs.dk\)](https://icrofs.dk/kalvvedko)

[GrOBeat \(icrofs.dk\)](https://icrofs.dk/grobeat)

[Bedre beslutningsstøtte i ko-kalv-systemer \(icoel.dk\)](https://icoel.dk)



