

Cattle Health - biosecurity



Lars Pedersen
Chief Consultant / Contingency
veterinarian for cattle diseases
at SEGES Innovation

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**União dos ADS
do Alentejo**
PORTUGAL

STØTTET AF
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SEGES
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Agenda visit from União das ADS de Alentejo

11:30–12:00 Lunch at SEGES

12:00–12:15 Photography

12:15–12:30 Introduction to SEGES Innovation by veterinarian Peter Raundal

12:30–12:50 Surveillance and eradication of infectious cattle diseases by veterinarian Erik Rattenborg

12:50–13:10 Biosecurity in Danish cattle herds by veterinarian Lars Pedersen

13:10–13:20 Coffee and cake

13:20–13:40 The Portuguese surveillance and contingency programme with a special focus on EHD in Portugal

13:40–13:50 Wrap-up

Key Elements for Enhancing Biosecurity in Danish Cattle Farming

Research Integration

Research findings provide vital data that inform biosecurity strategies in cattle farming.

Collaboration & Communication

Effective teamwork and communication enhance the implementation of biosecurity measures.

Best Practice & Expert Insight

Applying best practices and expert opinions ensures the highest standards of biosecurity.

Digitalisation & Consultancy

Digital tools and tailored consultancy improve decision-making and biosecurity management.

Innovation

Developing tomorrow's solutions to improve biosecurity in Danish cattle herds.

Collaborations on research initiatives

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A COLLABORATION BETWEEN



Cattle Health – biosecurity



Improving knowledge about biosecurity

against *Salmonella* Dublin introduction and establishment in dairy cattle farms

Lars Pedersen^{1,2*}, Hans Houe¹, Erik Rattenborg², Liza Rosenbaum Nielsen¹

We asked
Can we provide new knowledge about the effect of biosecurity in dairy farms located in S. Dublin-endemic areas of Denmark by assessing biosecurity level semi-quantitatively?

Why we asked
• There are many introduction pathways for *S. Dublin* and it is hard to point out single environmental risk factors.
• The prevalence of *S. Dublin* increased in Danish dairy cattle farms since 2015 despite a national eradication programme in place.

LOOK CLOSELY!
Do you spot compromised biosecurity and how can you assess it? Discuss it with an SVEPM colleague.

What we did ...

Follow ~1,400 dairy farms at risk with no recent history of salmonella located in S. Dublin-endemic areas of Denmark.

Select newly test-positive and remaining test-negative farms, matched on herd size, from the Danish surveillance programme over a one-year period.

Score biosecurity level on-farm in 12 different farm sections based on observations, interview questions and a scoring guide.

Include farm register data for secondary variables and conditional logistic analysis.

What we saw ...

Assessment score

Expert-weighted into a single overall biosecurity score

Outcome

What we found ...

Biosecurity reduces the odds of becoming a case:
 $OR = 0.64$ (95% CI = 0.43-0.96, $p = 0.03$)
For each 10-unit increment in overall biosecurity level.

Local infection pressure increases the odds of becoming a case:
 $OR = 1.13$ (95% CI = 1.01-1.25, $p = 0.03$)
For each 1,000 increment in number of cattle in S. Dublin test-positive neighbour farms within a 10 km radius.

And we concluded ...

Individual biosecurity section effects
but not clearly identified as risk factors.

A preventive effect of the overall biosecurity level
for introduction and establishment of *S. Dublin* in Danish dairy cattle farms.

Present level of biosecurity is insufficient
to resist current infection pressure from the surroundings.

IN COLLABORATION BETWEEN

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Danish Veterinary and Food Administration

AFFILIATION

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Data collection



Farmer/herd manager
and biosecurity assessor



Map drawing



1
Demographic information
and herd overview



Biosecurity assessor




Observations



2
**INITIAL
ASSESSMENT**



3
Fill in
observation checklist



Farmer/herd manager
and biosecurity assessor




Walk and talk



4
Adjust observation check-
list according to owner/
manager information



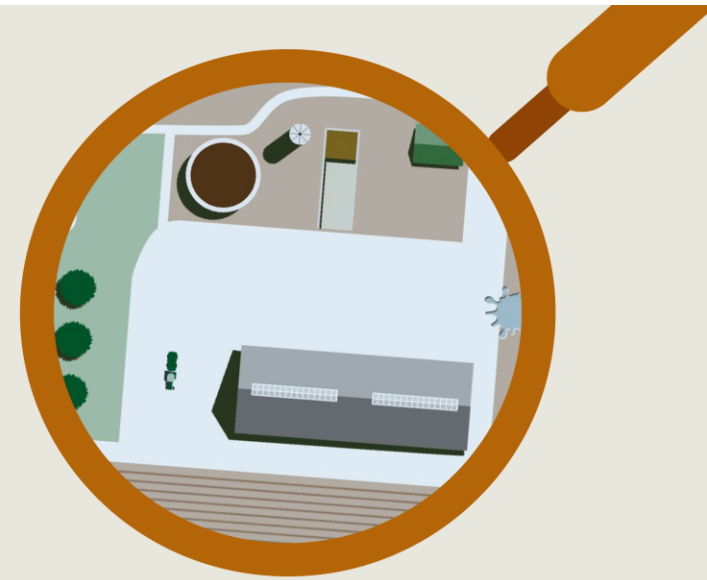
5
**ADJUSTED
ASSESSMENT**



6
Questionnaire
interview



7
**FINAL
ASSESSMENT**



Collaborations on research initiatives

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Cattle Health – biosecurity

Zero *Salmonella* prevalence found in common starlings *Sturnus vulgaris* captured in Danish cattle sheds on farms infected with *Salmonella enterica* Dublin

Under peer review

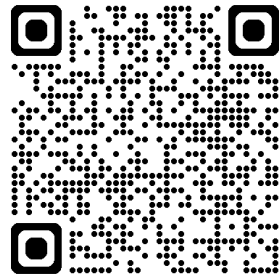
Malene Budde¹, Betina B. Tvistholm¹, Henning Heldbjerg², Erik Rattenborg¹ and Anthony D. Fox²

¹SEGES Innovation P/S, Animal Health and Welfare, Cattle Livestock, DK-8200 Aarhus N, Denmark and ²Department of Ecoscience, Aarhus University, C.F. Møllers Allé 8, DK-8000 Aarhus C, Denmark.



Communication

- Newsletters
- SEGES TV
- SEGES Innovation's agricultural knowledge portal
- The Danish Cattle Conference
- Dairy Management System



Best Practice & Expert opinion

- Practical guidelines for farmers
- Expert opinion to stakeholders regarding:
 - Cattle diseases
 - Disease control and prevention
 - Biosecurity

SÅDAN RENGØR DU Enkeltkalvehytten

- ✓ Flyt hytten til vaskearealet og fjern al strøelse og gødningsrester
- ✓ Husk brug af personlige værnemidler
- ✓ Grovspul alle flader med vand ved højt eller lavt tryk og masser af vand
- ✓ Udlæg en alkalisk sæbebrugsopløsning (pH 9 - 12)
 - Husk korrekt koncentration af sæbebrugsopløsningen (læs produktvejledning)
- ✓ Lad sæben virke ca. 15 minutter
- ✓ Spul sæbe og skidtresten af ved højt tryk eller lavt tryk og masser af vand
- ✓ Flyt hytten til et rent og tørt sted og lad tørre nogle timer
- ✓ Gennemgå kritiske kontrolpunkter inden desinfektion (se nedenfor)

Er der problemer med **Cryptosporidier** i besætningen, så lad en brænder med bred flamme slukke kortvarigt op ad boksinventar, gulve og vægge efter endt rengøring og desinficering og inden hydratkalkopløsningen sprøjtes på.

- ✓ Oversprøjt de tørre flader med et godkendt desinfektionsmiddel og efterlad til tørring
 - Husk korrekt koncentration og kontakttid (læs produktvejli.)
- ✓ Oversprøjt gulvflader og vægge, hvor kalvehytterne står, med en 15 pct. hydratkalkbrugsopløsning (15 kg kalk i 100 liter vand).

KRITISKE KONTROLPUNKTER: Er disse ting og steder rene inden desinfektion?



- Hyttens ud- og indvendige overflader, visuelt og ved tjek
 - Kør en finger hen over overfladen med et vist tryk. Overfladen må ikke føles glat, men skal derimod give lidt modstand – så burde overfladen være ren
- Indvendigt i toppen af hytten.



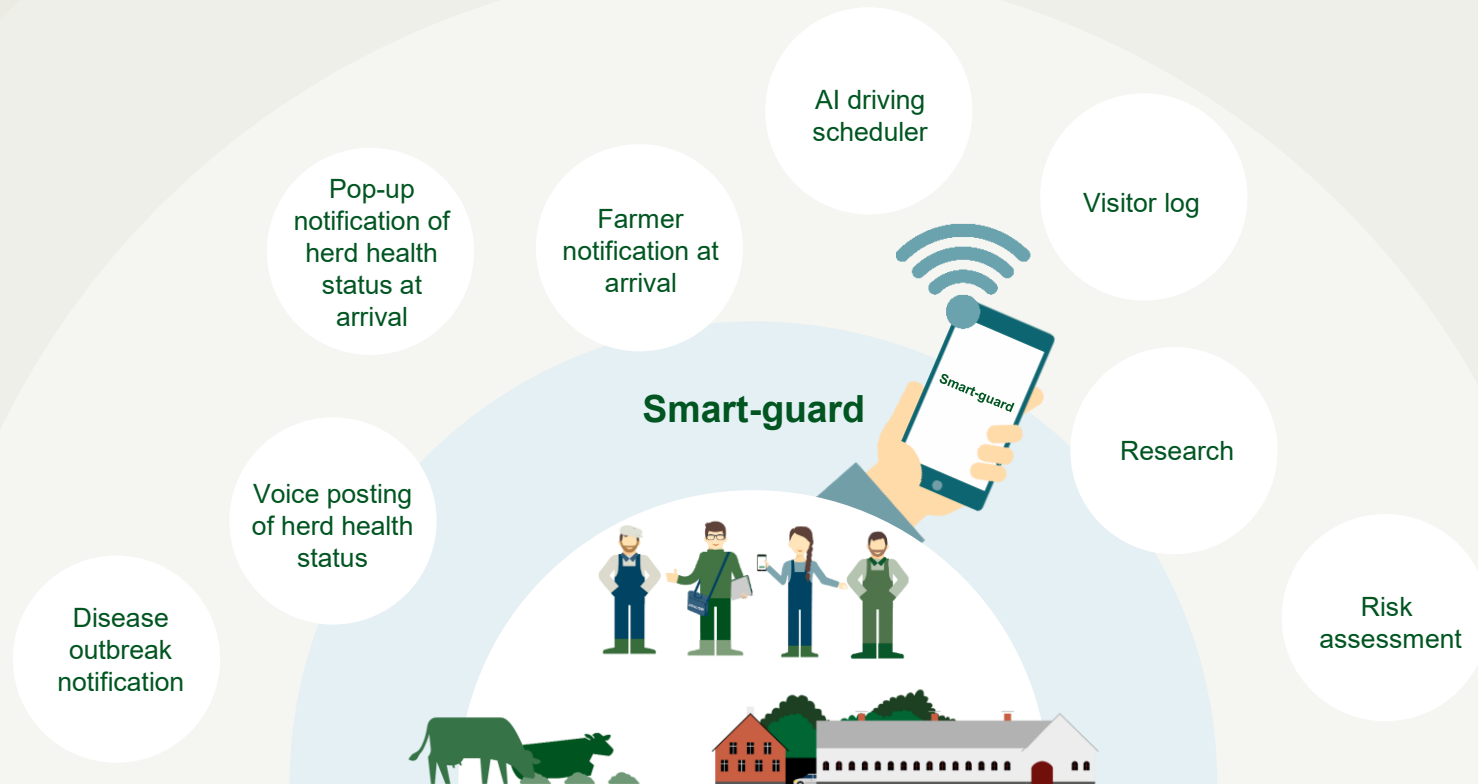
- Indvendigt i kantåbningen
- Kanten i bunden af hytten.

Digitalisation

- Transparency - Publicly available information about herd health disease status
- Information and Illustration of epizootic disease situation
- Calf check - Information about disease development in supplier herds
- Etc.



Innovation - Developing tomorrow's solutions



Time for questions

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