

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?

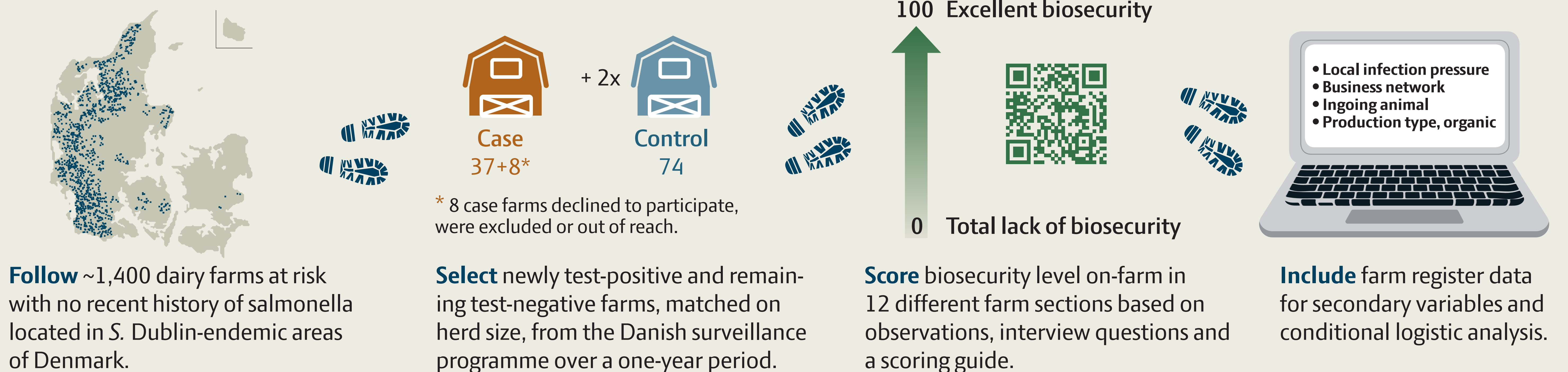
Why we asked

- 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.

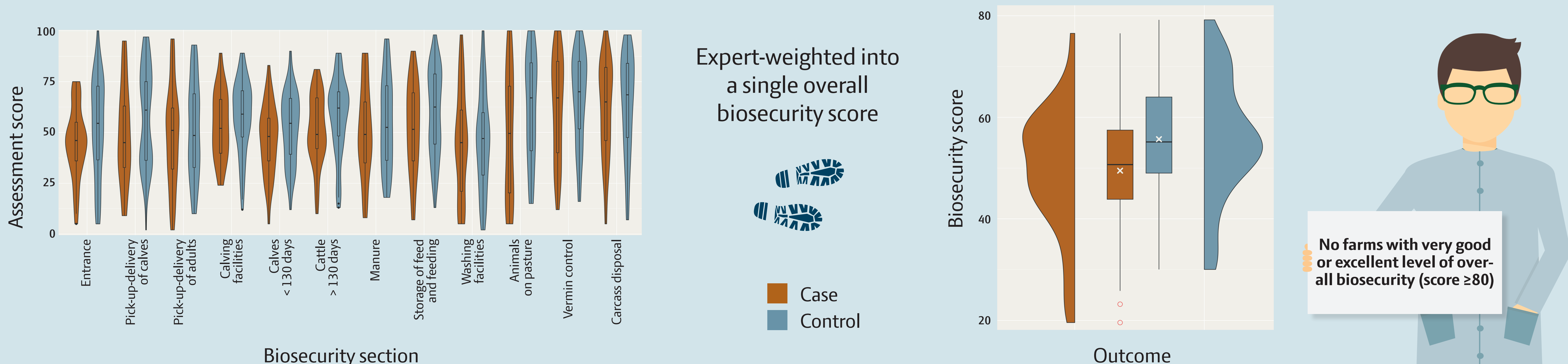
LOOK CLOSELY!

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

What we did ...



What we saw ...



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

SEGES
INNOVATION

UNIVERSITY OF COPENHAGEN

FUNDED BY

Danish Veterinary and Food Administration

Mælkeafgiftsfonden
Kvægaftsfonden

AFFILIATION

¹Department of Veterinary and Animal Sciences, Section for Animal Health and Welfare, University of Copenhagen, 1870 Frederiksberg, Denmark.
²SEGES Innovation P/S, Animal Health and Welfare, Cattle Livestock, 8200 Aarhus, Denmark.

*larped@seges.dk