

Quarter-based vs cow-based selective dry cow therapy

PhD study – trial 2

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Dry cow therapy in Denmark

Legislation

- 2 x DHI recordings of SCC >200,000 cells/mL in the last 4 months, or
- 1-2 pathogens detected in bacterial culture (NOT on-farm tests), or
- 1 or more treatment-required pathogens detected in PCR

Selection of cows for treatment in practice?

- High SCC cows
- Risk cows with low SCC are tested by: bacterial culture

OR

- PCR – from DHI recordings

Aim of the study

Background: Political agenda to reduce antimicrobial usage

Purpose: To generate knowledge of relevance for quarter-level dry cow therapy to reduce antimicrobial usage

Objective: To compare udder health outcomes and antimicrobial usage between Q-SDCT and C-SDCT

Outcomes:

- Bacteriological cure
- New intramammary infection
- Clinical mastitis
- Antimicrobial usage



Inclusion criteria

Farm level

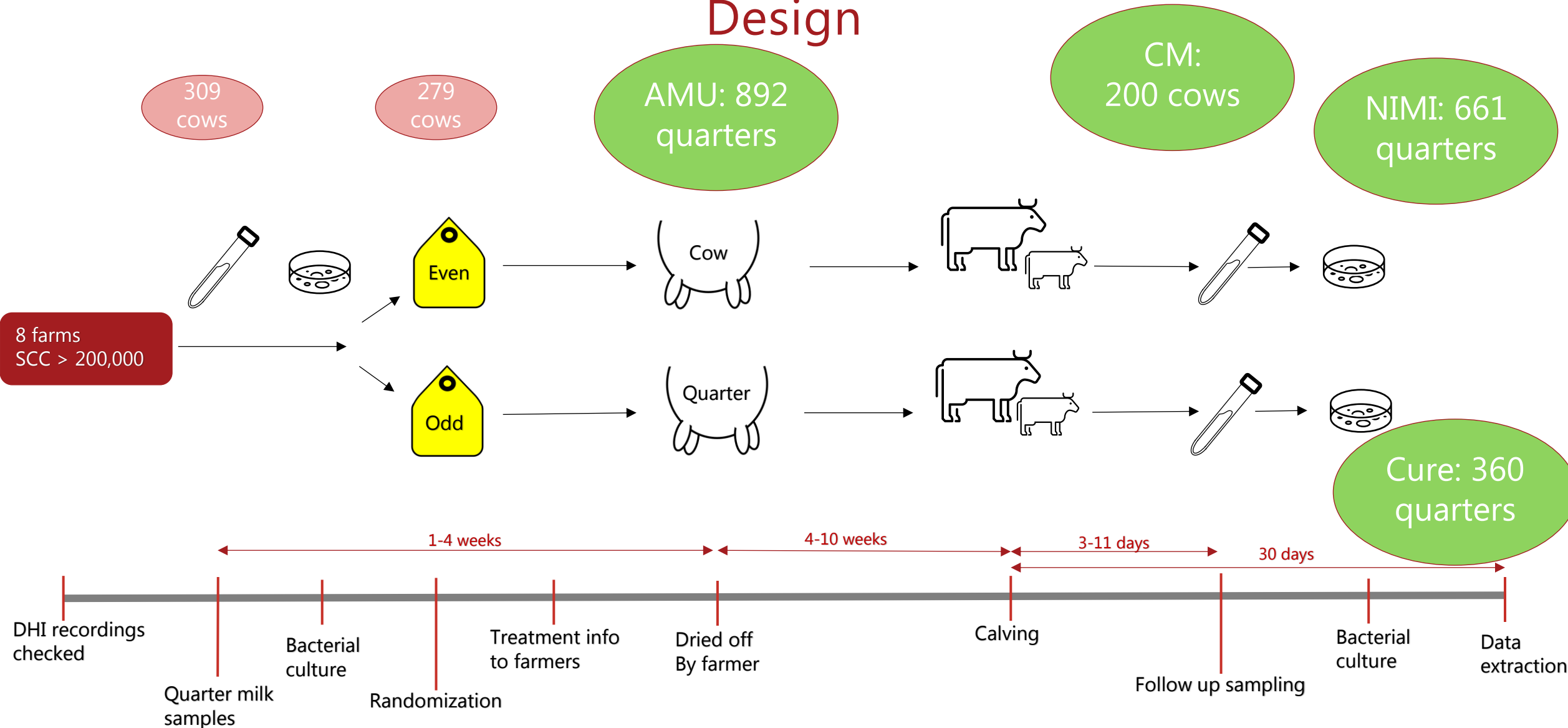
- Conventional
- No AMS
- No *Salmonella dublin*
- Herd size ≥ 200 cows
- Proximity to research staff
 - Jutland and Northern Germany

Cow level

- SCC of $>200,000$ cells/mL
- No AB for 1 month before dry off sampling



Design



Crude udder health outcomes

Warning!!

Multivariable analysis not yet performed!

Outcome	Q-SDCT [95% CI]	C-SDCT [95% CI]	Absolute difference
Antimicrobial usage (N = 892 quarters)	57.2% [53.0,61.4]	100% [NA]	42.8%
Bacteriological cure (N = 360 quarters)	97.0% [94.2,99.9]	94.7% [91.7,97.6]	2.3%
New intramammary infection (N = 661 quarters)	18.3% [13.6,23.0]	8.9% [6.1,11.7]	9.4%
Clinical mastitis (N = 200 cows)	10.3% [3.5,17.0]	8.2% [3.3,13.1]	2.1%

Take home messages

Treat less

- Small part – but important

No clear difference for:

- Bacteriological cure
- Clinical mastitis

Crude results!

Increases knowledge of pathogen prevalence

Increased new intramammary infection rate

Crude results!

Increases labor and costs for testing

Higher risk of wrong treatment

- 56 cows → 42 cows in Q-SDCT

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