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Dynamics of udder health key performance indicators

– a national perspective 2017-2023

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STØTTET AF

Mælkeafgiftsfonden

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This is what we are going to share

- Danish milk production – fun facts
- Data source and quality
- Status – key performance indicators in milk quality
- Consumption of antimicrobials
- Pros and cons – impact on udder health

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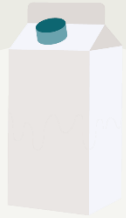
Fun facts of Danish milk production

495.859

The total number of milking cows in Denmark is 495.859 cows in DHI > 90 %

The number of Danish dairy farms is 2142 – 5,7 billion liters of milk, about 85 % of export – growing production



DHI recording 11.513 kg ECM / year on average (36,1 liter/cow/day)

The average herd size in Denmark is 267 cows (5-3500 cows)

The number of farms is reduced by 5 % per year

Employees are predominantly from Central Europe – a rising number from Southeast Asia

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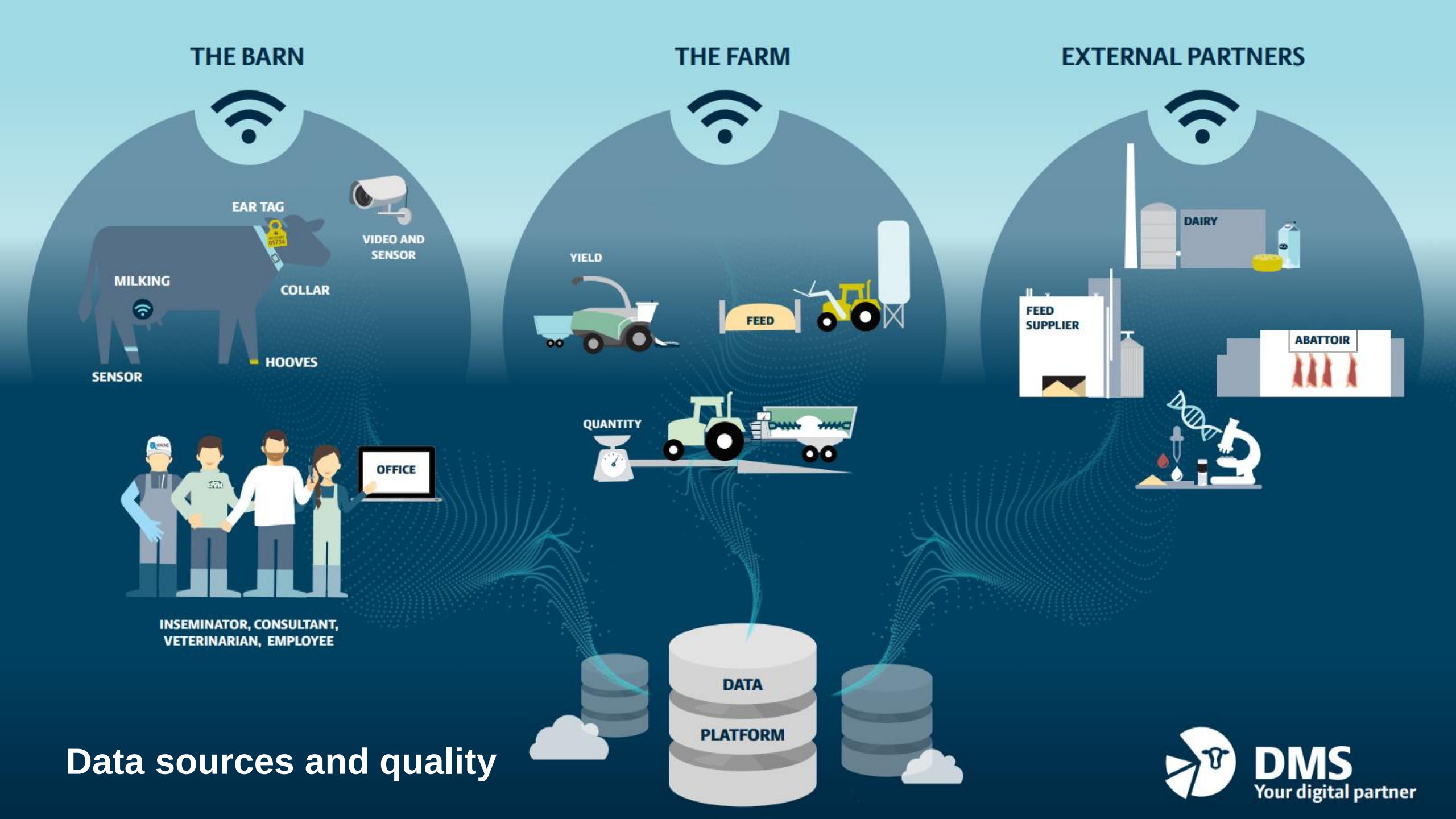

Data sources and quality

DMS
Your digital partner

Does the milk buyer promote milk quality?

- The largest milk buyer, ARLA (90% of the market), has a 200,000 cells/mL geometric limit for premium; therefore, most herds adjust to be just below

- Some smaller cheese plants will have a linear premium down to 100,000 cells/mL

- Therefore, the direct incentive for many dairy farms to be less than 200,000 cells/mL is limited

Positive impact on udder health

Positive impact from engaged veterinarians providing herd health service – with no incentive to distribution of antimicrobials

NMC 10-point plan recommendations are implemented to a large degree, helped by herd size

Powerful data basis and a stand-alone one-farm system (DMS) for Evidence-Based intervention and consulting by the herd veterinarian

Mandatory diagnostics on clinical mastitis

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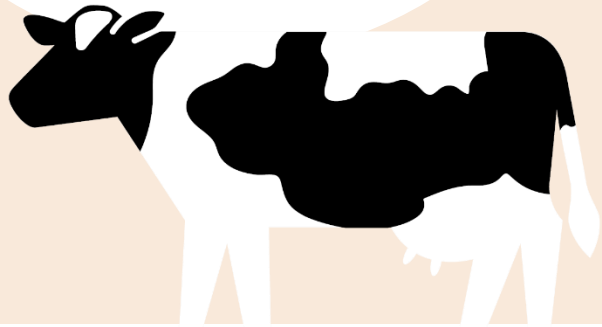
Negative impact on udder health☹

Herds positive on *S. agalactiae* now, 12.5 % of the herds in national surveillance

- Increased consumption of antimicrobials
- Reduced longevity
- Reduced DIM calving to culling

Organic milk production

- Increased proportion of infected cows in all lactations, problems



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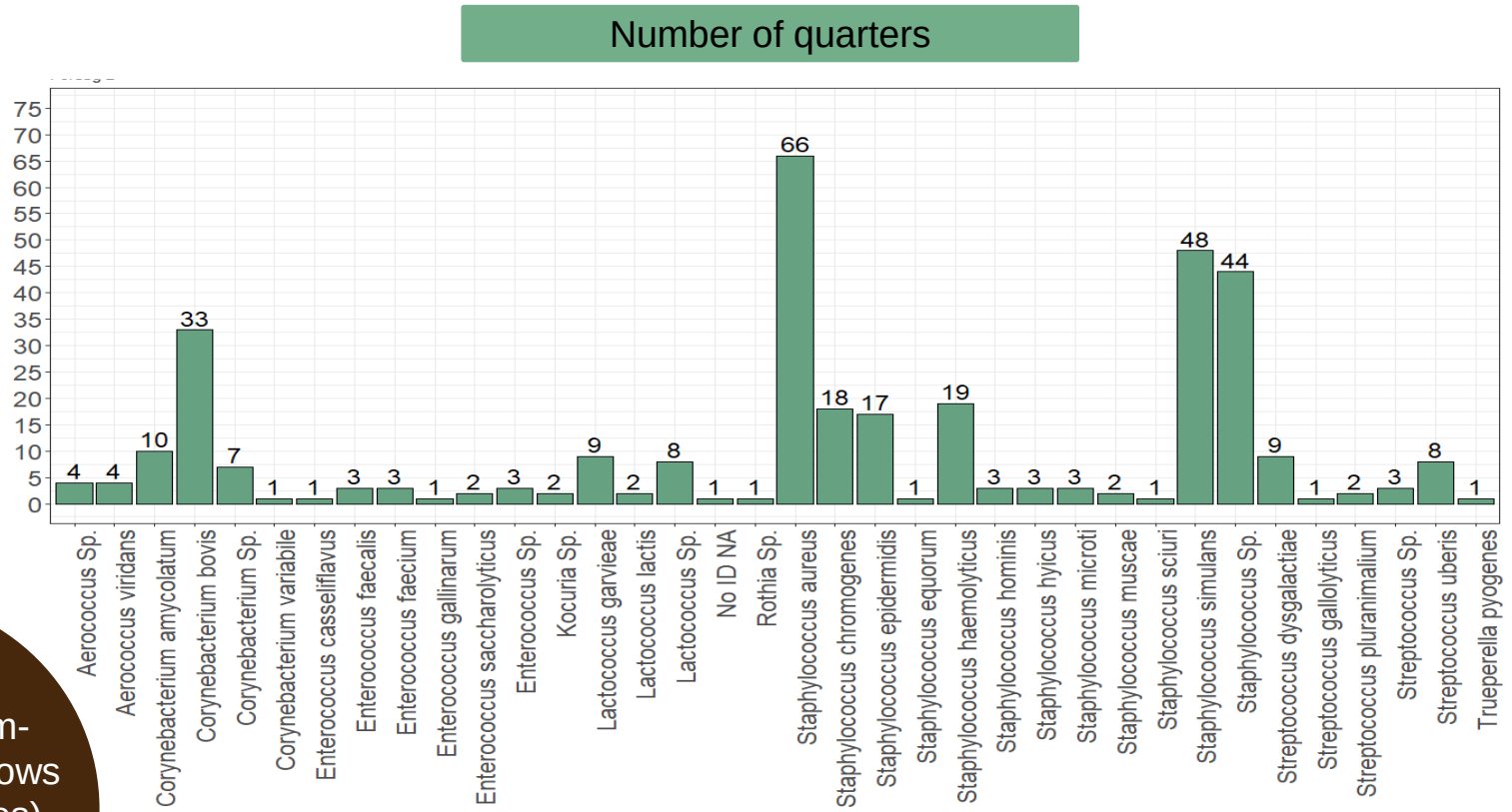
What could be further improved?

- Poor diagnostic accuracy on most mastitis cases *(Astrup et al. 2022)* →
- Probably mis- and overuse of antimicrobials.
- So, what we have achieved is to reduce the consumption of antibiotics – we still lack to target the consumption.
- No systematic National surveillance for AMR but high levels of decreased sensitivity towards penicillin in common pathogens *(Jensen et al. 2024, Kløve et al. 2025)*

Astrup, LB., Pedersen, K., Farre, M. Microbiological Diagnoses on Clinical Mastitis — Comparison between Diagnoses Made in Veterinary Clinics versus in Laboratory Applying MALDI-TOF MS. Antibiotics 2022, 11(2), 271.
Jensen VF., Damborg, P., Norström, M., Nonnemann, B., Slettemeås, JS., Smistad, M., Sølverød, L., Turnidge, J., Uldahl, AM., Vledman, K., Essen-Zandbergen, A., Astrup, LB. Estimation of epidemiological cut-off values for eight antibiotics used for treatment of bovine mastitis caused by Streptococcus uberis and Streptococcus dysgalactiae subsp. Dysgalactiae. Veterinary Microbiology 2024, 290.
Kløve, DC., Strube, ML., Heegaard, PM., Astrup, LB. Mapping Antimicrobial Resistance in Staphylococcus epidermidis Isolates from Subclinical Mastitis in Danish Dairy Cows. Antibiotics 2025, 14(1), 67

What could be further improved?

- Lack of regulation on the drug-of-choice for Dry Cow Treatment
- Is DCT necessary – and if so, what is the actual need for broad-spectrum antimicrobials…?



0 cases of Gram-negative in 234 cows (911 milk samples) with SCC> 200.000 at dry-off…

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Take home – reflect on this☺

In Denmark, we benefit from robust data that enables evidence-based interventions at the herd and cow level

Our independent research and development initiatives are owned and driven by dairy farmers, focusing on udder health, milk quality, and support for all stakeholders across the supply chain

Through continuous innovation, we consistently improve udder health while simultaneously reducing the use of antimicrobials

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Thanks for your attention!

Questions and comments will be highly appreciated!

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