Introduction

- Farm Type I: no DD problem
- Problem Farm Type II during outbreak -> Manageable State of DD
- Problem Farm Type III during >1 outbreak -> Manageable State of DD

In order to prevent outbreaks of DD...less, applied earlier...is more!!

Imagine there was no DD problem... and nobody is looking...

- Transitions between DD lesions on a farm type I
- where DD is not perceived as a problem
- What do we see?
- How should we manage this farm type to prevent DD outbreaks?

“Manageable State of Disease”

...in the end:
...the many faces of an endemic claw disease...

DD is here to stay!
Prognosis DD

...not all M2 are equal!

Different Prognosis depending on Cow Type...

CHRONIC consequences of DD

New Aids for recognizing DD Trends

- Cattle Lameness Book (with e-book)
- DD Check App, (Tremblay et al 2016)
- (IOS, Trends, Tx, Prediction model)

...Breaking the DD Cycle

Treponema spp. and other MOs

- DD, multifactorial Disease
- strong bacteriological component (Read et al 1995)
- Strong genetic component (Schopke 2015 Kopke 2016)
- Treponema spp. are located deep in the skin!!
- Treponemes encyst! (Döpfer 2012)

Imagine there was no DD problem...
and nobody is looking...

- 90 cow commercial dairy farm in the NE of US
  (Feb-May 2016), 12 week follow-up

- Footbath 3x/wk, 1x/d using “sustainable” footbath chemical
  - for example Thymox or chlorine solutions

- currently no protocol for topical treatment in place

“Manageable State of Disease”
Imagine there was no DD problem... and nobody is looking ...

Case 4: cow type III
• by wk6-10 the Stratum basale is in proliferative mode
• => failure of topical treatment

"Manageable State of Disease"

DD prevention on farm type I
• Continuous monitoring for trends of M-stages
• Typing of cows
• Attention to recurrent lesions in type III cows
• Choose your M2 cases for topical treatment
• Non-antibiotic topical treatment agents
• Claw trimming to keep horn functional for weightbearing
• DD prevention in youngstock!!!
• Sustainable footbathing program

"Manageable State of Disease"

The VFD will become mandatory in 2017
• Consequently:
  • the use of antimicrobials such as tetracyclines for the
topical treatment of DD lesions will have to be
• applied within a valid veterinarian-client relationship
• No over-the-counter antimicrobials used for human treatments will be available anymore.
• NEED for non-antimicrobial prevention and control of DD!!!

DD prevention on farm type II – single outbreaks
• Early detection and prompt topical treatment of M2 lesions for both type II and III cows
• Consider non-antibiotic topical treatment agents for type II cows
• Sustainable footbathing, monitoring of trends
• Cow typing
• Manage type I and II cows separately from type III cows

"Manageable State of Disease"

Imagine predicting predisposition to chronic DD before it turned chronic?
• How would we manage those cows?
• Pre-screening of youngstock

Heifer
1.1 Calf 1.2 pre-breeding 1.3 pre-calving 2. Lactation 3. Dry cow
Transition periods
Up
Up
Up

Transitions!!!

"Manageable State of Disease"

Integrated Prevention and Control Strategy
• Reduce infectious pressure upon lactating herd
  • ...and vice versa!!!
• How to manage the pre-calving heifers?
3 Key Messages

- When you lift a foot to treat DD, you are too late!
  - Treponemes penetrate deep into the epidermis and dermis
  - DD has long-term consequences

- The dynamics of DD are driven by chronic DD lesions,
  - Not by active DD lesions (M2) alone

- Need for long-term
  - Integrated Prevention and Control of DD
    - From calves -> heifers -> adult cows/steers -> dry cows

"Manageable State of Disease"

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Dairy herd, VA, ~1600 lactating cows

Case: Type III farm

History of 7 years of multiple outbreaks and continuous DD problems per year

- 5-7x/w 7-10% Formalin Hoof bath
- Topical spray at parlor exit lane, pH<2.0
- Delayed topical treatment

Example for

Non-Mangeable State of Disease (July/August 2014)

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After the changes: DD lets go of proliferations... "Flaps"

The first sign for success: less proliferative DD

M4 hyperkeratotic, with "flap"

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Customized Prevention and Control...

First Sign of succes is:

Less Proliferative DD !!!
Transition -> Mangeable State of Disease

- Transition characterized by:
  1. Decrease in M2, M4 ...“flaps”
  2. Decrease in proliferative lesions,
  3. Early detection prompt treatment of M2
  4. Monitoring using DD Pen Walks,
  5. DD Check App, prediction model
  6. Customized “Ideal Hoofbath”

More research and infos
- Webinars, Press releases – beef and dairy
- Folder, posters
- App, App... Models
- Books....“Cattle Lameness”
- ICAR claw health atlas:
- Workshops
- dopfer@wisc.edu FAPM website,
- UW-Madison, Wisconsin, USA

Thank you!
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