

THE UNIVERSITY OF BRITISH COLUMBIA

Animal Welfare Program Faculty of Land and Food Systems

Rethinking transition cow care for the next decade

Marina (Nina) von Keyserlingk, Ph.D. nina@mail.ubc.ca



Take Plan

- The current state of affairs
- Can changes in behavior help us identify the vulnerable cow?
 - Metritis
 - Lameness
- Where to from here?

30 to 50% of cows become sick during transition

Results \downarrow milk production \Downarrow reproductive efficiency ↓ longevity ↑ involuntary culling Lost \$\$



Transition cow disease is a serious welfare issue!

Glass half full

 ✓ ~ 50 to 70% of cows stay healthy during the transition period

✓ Can we learn from them?



Metritis:



VD=0

VD=1

Clear or no discharge

Bloody or flecks of pus

Healthy

less than 50% pus

VD=2

+ bad smell w or w/o fever more than 50% pus + bad smell

VD=3

VD=4

Red/brown watery VD, rotting flesh + putrid smell + fever

Mild Metritis

Severe Metritis

UBC



Healthy cattle show declines in feed intake the day before calving



Sick cows show declines in feed intake in the week before calving







Sick cows eat less during peak feeding times





Healthy cows spend time at the bunk eating but also standing and not eating



Adapted from Huzzey et al. 2007, J. Dairy Sci. 90: 3220-3233

Whereas when sick cows come to the feed bunk they spend most of their time eating



Adapted from Huzzey et al. 2007, J. Dairy Sci. 90: 3220-3233



Sick cows avoid social interactions that involve competing for food.







Sick cows produce less milk!



....and continue to produce less!





Adapted from Wittrock et al. 2011. J. Dairy Sci. 94: 2408-2412





Metritic heifers stood **80 min more** with all four hooves in the stall in the 3 days before diagnosis



Adapted from Lomb et al 2018. J. Dairy Sci. 101:7471-7479



Back arch – before examination



Back arch – during examination



Cows with metritis arched their backs more during rectal and uterine palpation



Lameness





What were they doing at transition?



UB

Cows with lesions spent ~ 1.5 hours more time standing in the week before calving







Proudfoot et al., 2010, J Dairy Sci. 93:3970-3978





Proudfoot et al., 2010, J Dairy Sci. 93:3970-3978





Proudfoot et al., 2010, J Dairy Sci. 93:3970-3978

Cows diagnosed with hoof lesions (at peak lactation) stood long during transition





Use of deep bedding = 50% fewer lame cows

Chapinal et al. 2013, J. Dairy Sci. 96: 318-328

Take home messages

A cow is vulnerable during the transition period

Ensure sufficient bunk space so that she can eat when she goes to the feed bunk

Ensure that every cow has a comfortable dry place to lie down (and ideally stand)





zoetis

