

Impact of BRD From the Perspective of the Canadian Dairy Producer: Challenges and Opportunities

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My Background

- Raised on a progressive Ontario Dairy Farm
- Stanton Farms:
 - Currently milking 740 Registered Holsteins
 - Raise 600 heifers and a 50 bulls a year for AI units
 - Strict health requirements for bulls and export animals



My Background

- B.Sc in Agriculture (Animal Science) 2005
University of Guelph
- Interest in animal behavior, welfare, health and research



My Background

- PhD Candidate
 - Topics within thesis:
 - Methods to reduce stress of grouping calves
 - Behavior of calves with poor post-weaning growth
 - Field studies evaluating the use of a long-acting antibiotic on morbidity, mortality and growth at a commercial heifer raising facility
 - Long-term impacts of BRD

BRD in Dairy Calves in Canada

- Few studies reported
- Ontario in 1980 (Waltner-Toews *et al*, 1986)
 - 15% heifer calves treated for BRD prior to weaning
 - 5% case fatality rate
- Saskatchewan 1990 (Van Donkersgoed *et al*, 1993)
 - 40% calves diagnosed with BRD prior to 6 months of age

Focus of BRD Activities

- **Prevention**
 - Vaccines
 - Colostrum management
 - Isolating young stock from mature animals



Focus of BRD Activities

- Prevention
- **Spreading out the stressors**
 - Group calves in nursery prior to movement
 - Proposed benefit: Decrease stress associated with moving to group housing
 - Unknowns: effective group size, minimum time in the nursery, time between weaning and grouping



Focus of BRD Activities

- Prevention
- Spreading out the stressors
- These methods are important but.....

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- Prevention
- Spreading out the stressors
- These methods are important but.....
- Disease still exists!



Welfare Impacts of BRD

- Clinical disease
 - Dyspnea (shortness of breath)
 - Coughing
 - Anorexia
 - Depression
- Chronic Cases
 - Possible pulmonary abscesses or fibrous pleuritis
 - Prolonged clinical signs
 - Death



Early indicators of BRD

- Early identification of sick animals can reduce the number of re-treatments necessary (McGuirk, 2008)
 - Behavior indicators of poor growth (Stanton *et al*, 2008)
 - Automatic feeders to identify sick calves (Borderas *et al*, 2008)
- Indicators need to be sensitive specific with a high inter-observer reliability

Economic Costs of BRD

- Calves treated for BRD are 2.5 times more likely to die after 90 days of age
 - Waltner-Toews *et al*, 1986
- Decreased growth and delayed time to first calving
 - Donovan *et al*, 1998, Correa *et al*, 1988; Warnick *et al*, 1994
- Increased risk of dystocia
 - Warnick *et al*, 1994

Life after BRD.....

- Determine if further recovery is likely
 - NO: Abscess, fibrous pleuritis or additional health concerns
 - Consider suffering versus recovery
 - Early identification
 - Euthanasia

Life after BRD.....

- Determine if further recovery is possible
 - YES: So why is the calf not growing?
 - Lung damage compromising feed efficiency
 - Low dominance status
 - Access to feed and bedding

Life after BRD.....

- So what can we do.....
 - Different management for BRD treated cattle
 - Group by health status
 - Move to less competitive environment
 - Delay breeding
 - Effectiveness and practicality of management practices
 - Evidence based medicine

Take home points

- The long term consequences of BRD complicates identification of total economic & welfare costs
 - More opportunities to intervene
- Decisions made to maximize welfare of calves while maintaining the productivity of the farm
- More research needs to be done to support producers and veterinarians in making decisions

Thank you!

- BRD Symposium committee
- Pfizer Animal Health
- Natural Science and Engineering Council of Canada
- CY Heifer Farm
- Iowa State University Dairy Farm
- Elora Dairy Research Centre
- Advisory Committee: Drs. Dave Kelton, Suzanne Millman, Stephen LeBlanc, Tina Widowski and Ken Leslie

