



UNIVERSITY OF
SASKATCHEWAN

Current Issues in Dairy Health & Production

Dr. Steve Hendrick

Large Animal Clinical Sciences
Western College of Veterinary Medicine

Outline

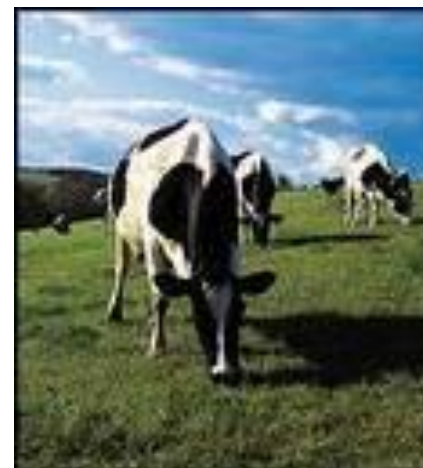
- ▶ Update on 3 on-going projects:

1. Johne's disease

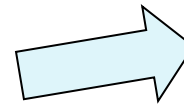
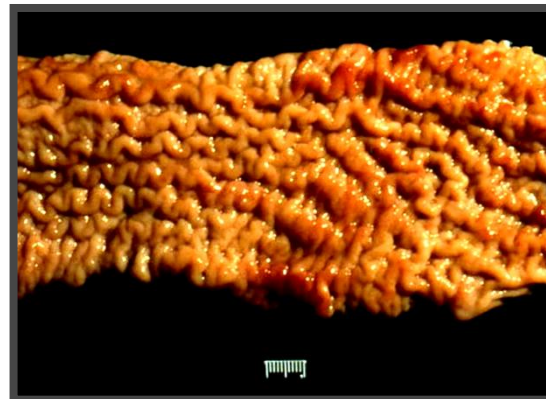
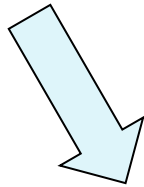
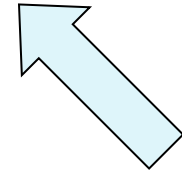
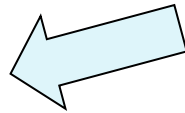
2. Milk iodine

3. Forage quality

- ▶ Questions and Discussion



Johne's Disease



Johne's Disease



- ▶ Production limiting disease
 - Decreased milk production
 - Increased culling rate
 - Impaired reproduction
- ▶ Trade barrier
- ▶ Crohn's Disease ???

Johne's Disease in Canadian Dairy Herds - CanWest DHI

Herd Status	B.C.	Alta.	Sask.	Man.	Ont.	Total (N)
No JD+ cows	61%	55%	72%	47%	65%	301
At least one JD+	39%	45%	28%	53%	35%	185
>5% JD+	0	10%	3%	4%	5%	
Total # herds	41	60	32	49	305	486

Johne's Disease in Saskatchewan Dairy Herds

- ▶ 32 herds, 3049 cows
 - 13 had previously identified Johne's on their farms
- ▶ 32.2 +/- 9.3 kg on test day
- ▶ Herd size avg. 95 cows on test day
 - (range 33 - 352)

Johne's ELISA Test Result	Number	%
Negative	3018	99%
Suspect	7	0.2%
Positive	24	0.8%

Johne's Disease in Saskatchewan Dairy Herds



JD Herd Category – Prevalence of test positive cows per herd for herds	%	Number
All negative	72%	23
1 – 5 % test positive	25%	8
6 – 10% test positive	0%	0
>= 11% test positive	3%	1

Johne's Disease



- ▶ Collaborative project across Canada – DFC
 - Study the variation in MAP found in dairy cows
 - DNA finger–printing techniques
 - Testing 20 SK herds with known disease
 - milk ELISA
 - Milk positive cows will then be confirmed with culture
 - Isolates then used for DNA finger–printing
- ▶ May help explain spread of disease
- ▶ Opportunity for vaccination or improved testing???

Milk Iodine

- ▶ In 2010, DFC began a bulk tank milk (BTM) iodine monitoring program
- ▶ Each herd in Canada will be tested (13,000)
- ▶ Repeated testing over the next 3 years
 - Staggered over the year
 - Seasonal effects
- ▶ Collaborative project to study the factors influencing BTM iodine levels
 - Canadian Bovine Mastitis Research Network



Milk Iodine



- ▶ During this past summer:
 - 120 case herds with BTM levels >400 ppm
 - 120 control herds with BTM levels in the bottom 50% (<400 ppm)
 - 160 from Ontario
 - 40 from Atlantic region
 - 40 from Western Canada (Alberta and Saskatchewan)
 - Each herd completed an on-farm questionnaire
 - Data is being compiled nationally

Milk Iodine



▶ Hypothesis:

- Feeding and milk practices will be associated with high BTM iodine levels

▶ Results:

- Feed samples
 - Still being analyzed at this time for iodine
- We have only assessed the milking practices in Western Canada



Milking Risk Factors:	High Iodine Herds	Low Iodine Herds	P-value
Use of iodine pre-dip	8/20 (40%)	6/20 (30%)	0.51
Volume of iodine pre-dip	8.6 ± 8.2ml	5.9 ± 2.8ml	0.45
Avg. iodine pre-dip concentration (%)	0.57 ± 0.56	0.56 ± 0.46	0.95
Avg. iodine pre-dip contact time	59±13 s	30±19 s	0.006
Avg. iodine pre-dip coverage score	2.0±0.1	2.1±0.4	0.63
Avg. iodine pre-dip residual score	1.6±0.3	1.7±0.4	0.60
Avg. time taken to remove iodine pre-dip	20±17 s	10±5 s	0.17
Use of iodine post-dip	19/20 (95%)	11/20 (55%)	0.003
Volume of iodine post-dip	10.4 ±11.6ml	6.6 ± 6.2ml	0.31
Avg. iodine post-dip concentration (%)	0.86 ± 0.2%	0.8 ± 0.4%	0.75
Avg. iodine post-dip coverage score	2.2±0.1	1.8±0.1	0.01
Use of automatic sprayer	6/20 (30%)	2/20 (10%)	0.11
Avg. teat end score	1.9±0.4	1.9±0.4	0.75

Forage Quality



- ▶ Enrolled 60 producers from across the province

- ▶ Data Collection:
 - Ration(s) being fed to the milking herd
 - Collected monthly
 - Including costs, moisture content, number of cows milking
 - Feed testing:
 - 2011 –producers have been sharing their test results
 - Monthly milk production and composition
 - From SMMB or CanWest DHI



Forage Quality



- ▶ Quarter summary of:
 - Production and feed costs
 - Return over feed costs
 - Milk per tonne of forage
 - Feed costs as a percentage of milk revenue
- ▶ Create regional benchmarks
 - Compare your forages with other dairy producers around the province



Summary:

- ▶ **Feed Costs:**
 - Average – \$5.24/cow/day
 - Range – \$4.29 to \$7.81
- ▶ **Hay Prices:**
 - Average – \$107/tonne
 - Range – \$60 to \$165
- ▶ **Barley Silage:**
 - Average – \$47/tonne
 - Range – \$32 to \$70



Questions?



Work: 966-7062

E-mail: steve.hendrick@usask.ca