

Bloat prevention strategies without bloat capsules

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Source:
<http://www.omafra.gov.on.ca/english/livestock/beef/news/vbn0209a4.htm>



Photo: John Webb Ware, Mackinnon Project

Agenda

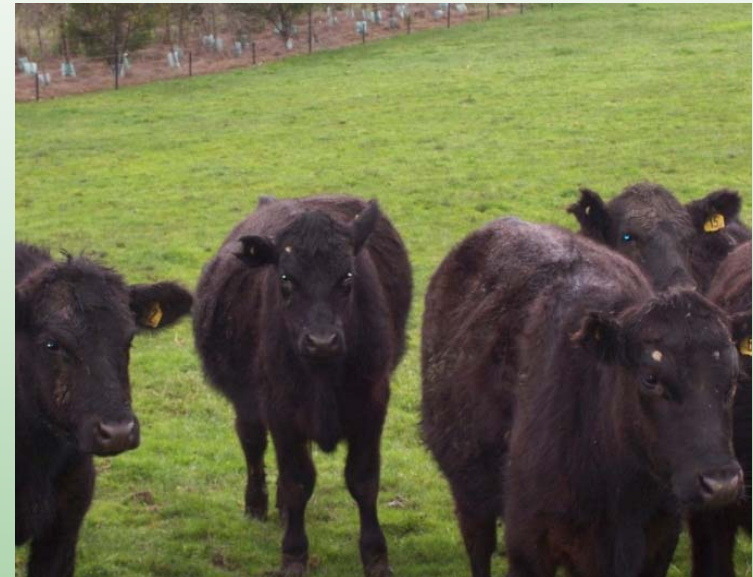
- Background and cause
- Presenting signs and treatment
- Prevention and control
- Cost:Benefit analysis

Background

- Normally, gas from fermentation is eliminated from the rumen by eructation (belching)
- Bloat occurs when for some reason, this gas can't escape
- Two types: frothy bloat (1°) and gaseous bloat (2°)
- This spring high risk due to lush pastures and low fibre
- Producers relied on Rumensin[®] Capsules → unavailable

Cause

- Associated with immature, rapidly growing legumes
- Can also occur when cattle graze rapidly growing rye-grass pastures
 - high in protein, water and soluble sugars, but low in fibre
- Abnormally stable and persistent foam in the rumen
 - normal gases of fermentation do not coalesce



Cause continued

- Many factors with complex interaction:

<u>ANIMAL</u>	<u>PLANT</u>
Age* Genetics Saliva (mucin) → anti-foaming <ul style="list-style-type: none">• Feeds low in fibre and high in moisture → ↓ <u>in saliva production</u>	Digestibility <ul style="list-style-type: none">• More stable foam produced• ↑ <u>gas production</u> with ↑ of soluble proteins and/or carbohydrates
<u>ENVIRONMENT</u>	<u>MANAGEMENT</u>
Rainfall and water → ↑ <u>pasture growth</u>	Frequent use of nitrogen fertilisers → change composition of pastures → ↑ <u>grass %</u> and ↓ <u>legume %</u> Grazing

Presenting signs

- Sudden death
- **Distention on the top left side**
- Not grazing
- Standing still/laying down
- Appear distressed/bellowing
- Strain to urinate or defaecate
- Rapid breathing (mouth open, tongue out)
- Staggering



Source: <https://vernon.tamu.edu>

Treatment

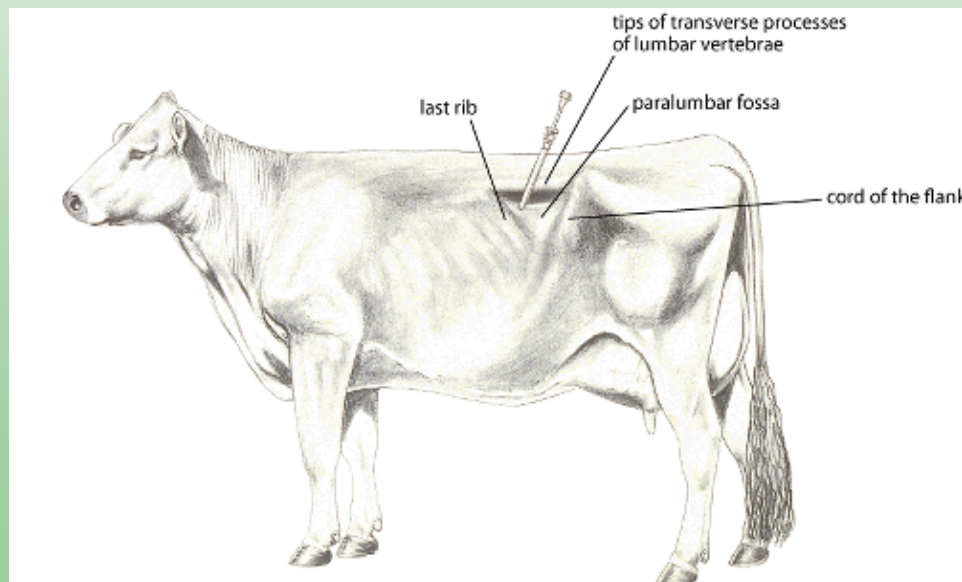
- Mild (distended left flank)
 - Treat orally with an anti-bloat preparation (oil + detergent)
 - Keep animal moving
 - Upgrade prevention in mob
- Moderate (distended left flank plus signs of distress)
 - Pass a stomach tube/hose to administer anti-bloat preparation and release gas (rumen contents can block tube)
 - Veterinary attention



Source: <https://tbasine.files.wordpress.com/2013/06/dsc02785.jpg>

Treatment continued

- Severe
 - Emergency stabbing high left flank to release pressure
 - Pour anti-foaming preparation directly into the rumen
 - Veterinary attention to stitch up



Source: The Merck Veterinary Manual

Prevention and control

- Need a combination of all practical options
- Pasture management
- Anti-foaming agents, detergents and fermentation modifiers (monensin)
 - Drenches
 - Pasture oils
 - Trough treatments
 - Bloat blocks/loose licks
 - Feed additives

Prevention and control continued

- Pasture management
 - Avoid grazing extreme risk pastures
 - Selectively graze paddocks with sheep first
 - Higher risk of bloat following days and nights that are cooler
 - Limit intake by:
 - Limiting time grazing in extreme risk paddocks*
 - Feed hay prior to grazing risky pastures
 - Feed hay daily → increases saliva production



Photo: John Webb Ware, Mackinnon Project

Prevention and control continued

- Drenches (all animals are treated)
 - Detergent (alcohol ethoxylate) → more effective
 - Oils → less effective and larger volumes required
 - Once daily if bloat risk mild but twice daily if the risk is more severe
 - Labour intensive
 - might work on a dairy farm

Prevention and control continued

- Pasture oils
 - Oil emulsified in water (paraffin oil)
 - Correct dosage and applied evenly on a daily basis
 - Best used in combination with intensive cell or strip grazing systems
 - Rain will wash oil away
 - Labour intensive



Prevention and control continued

- Trough treatments
 - Only source of water?
 - Detergents not palatable
 - Water intake can vary greatly
 - Ensure correct ratio is maintained
 - Add daily or via dispenser
 - In-line or dispensers on individual troughs (Peta dispensers)

Prevention and control continued

- Bloat blocks or loose licks
 - Inconsistent intake
 - Place close to water points or stock camps
 - Some contain monensin (need a 14 day lag before bloat control is active)
 - WeatherPro[®] Prevent
 - Feed additives on dairy farms



Costs

	\$/head/day	\$/head over 90 days	Extra growth
Bloat oil in trough	0.45	39.75	
Bloat oil drenched	1.25	111.75	
Pasture spray	1.50	132.10	
Blocks	0.50	44.10	
WeatherPro® Prevent	0.35	31.50	8%
Hay	0.45	40.50	
Rumensin® Capsules	0.20	19.00	8%

Cost:Benefit analysis

	Mortality Rate			100% protection at 10% mortality rate
	2.5%	5%	10%	
90 days of protection				
Bloat oil in trough	-\$973	\$2,016	\$8,026	\$11,026
Bloat oil drenched	-\$8,173	-\$5,173	\$826	\$3,826
Pasture spray	-\$10,211	-\$7,211	-\$1,211	\$1,788
Blocks	-\$1,410	\$1,590	\$7,590	\$10,590
WeatherPro® Prevent	\$2,864	\$5,864	\$11,864	\$14,864
Hay	-\$1,050	\$1,950	\$7,950	\$10,950
Rumensin® Capsules	\$4,114	\$7,114	\$13,114	
30 days of protection				
Bloat oil in trough	\$1,676	\$4,676	\$10,676	\$13,675
Bloat oil drenched	-\$725	\$2,276	\$8,276	\$11,276
Pasture spray	-\$1,402	\$1,598	\$7,598	\$10,598
Blocks	\$1,530	\$4,530	\$10,530	\$13,530
WeatherPro® Prevent	\$2,955	\$5,955	\$11,955	\$14,955
Hay	\$1,650	\$4,650	\$10,650	\$13,650
Rumensin® Capsules	\$4,114	\$7,114	\$13,114	

Return on investment

	Mortality Rate			100% protection at 10% mortality rate
	2.5%	5%	10%	
90 days of protection				
Bloat oil in trough	-24%	51%	202%	278%
Bloat oil drenched	-73%	-46%	7%	34%
Pasture spray	-77%	-55%	-9%	14%
Blocks	-32%	36%	172%	240%
WeatherPro® Prevent	91%	186%	377%	472%
Hay	-26%	48%	196%	270%
Rumensin® Capsules	217%	374%	690%	
30 days of protection				
Bloat oil in trough	127%	353%	806%	1033%
Bloat oil drenched	-19%	61%	222%	303%
Pasture spray	-32%	36%	173%	241%
Blocks	104%	308%	716%	920%
WeatherPro® Prevent	281%	567%	1139%	1424%
Hay	122%	344%	789%	1011%
Rumensin® Capsules	217%	374%	690%	

Conclusion

- Long-term protection with Rumensin[®] Capsules
- Trough treatment if they are drinking water
- WeatherPro[®] Prevent if animals will eat it
- Lick blocks if nothing else
- Hay is an useful adjunct when stock are grazing extreme risk paddocks