

Bloat in cattle- do we have the answers?

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Bloat dilemma

Current advice general and not necessarily helpful.

- We want rapidly growing cattle
- Pastures with legumes achieve this – through value of legume and from added value of legume to grass
- We aim for high quality pastures and most aren't monocultures
- Most effective prevention is a probiotic (read antibiotic)
- (Plus effect on heart / outlook of producer! Bloat is a strain)



Vaccination / diagnosis

Does 5 in 1 (or 7 in 1) vaccination stop bloat?

No

and

Yes

Frothy bloat – No

Enterotoxaemia – Yes

Diagnosis:

- Bloat
- Enterotoxaemia
- Nitrate / nitrite poisoning



Bloat prevention

Immediate

- Alcohol ethoxylate (Teric oil)
- Monensin
- +/- Hay

How much hay??

- 10-20% diet so if 300 kg and 3% MDI then 10-20% of 9kg ie 1-2 kg/hd/day



Bloat blocks

These are generally used on beef properties where more effective control methods are not feasible. A regular daily intake by all cows is required for adequate protection.

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/controlling-bloat-in-dairy-cows>



Bloat prevention - immediate

Immediate

Blocks, loose licks, liquids, in water supply, pasture

- **Alcohol ethoxylate (Teric oil)**
 - very effective if cattle eat it
 - just protects for bloat (depending what else in block, additives)



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Abstract

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In this paper structural and microbiological studies on the **ionophorous antibiotic monensin A** and its derivatives have been collected. Monensin A is an ionophore which selectively complexes and transports sodium cation across lipid membranes, and therefore it shows a variety of biological properties. **This antibiotic** is commonly used as coccidiostat and **nonhormonal growth promoter**. The paper focuses on both the latest and earlier achievements concerning monensin A antimicrobial activity. The activities of monensin derivatives, including modifications of hydroxyl groups and carboxyl group, are also presented.



Bloat prevention - immediate

Alcohol ethoxylate (Teric oil)

Example A for weaner cattle

- 300 kg
- Bloat Ade – 18 kg block
 - 10% Alcohol ethoxylate
 - 100g/hd/day
 - 1 block/10 head @ \$44
 - = 24 c /day (10g/day AE) (\$7-\$7.50/month)

Example B for weaner cattle

- Malafos+Teric- Molasses plus teric oil (alcohol ethoxylate)
 - Liquid/ Open trough
 - 30g/kg Teric oil
 - Feed 0.5-1 kg/head/day (400-750 mls/hd/day)

Bloat prevention - Immediate

- **Monensin (Rumensin[®]) – capsules (x), loose licks, liquid**

- Need a minimum 200 mg/hd/day
- Ionophor (probiotic = antibiotic)
- Takes about 10-14 days to be effective – not immediate
- Growth promotant and ineligible in some/most quality assurance grass fed type programs.

Example A

- WeatherPro Prevent – 20 kg loose lick
 - 3000 mg/kg sodium monensin
 - 100g/hd/day @ \$52
 - = 26 c /day (300mg/day SM)
 - plus extra growth? (10-12% ie 0.1 kg 30-40c /day??)
 - NB: Will animals eat 100g/day? - need at least 70 g/hd/day to get 200mg (ie 16.5c/hd/day)

Example B

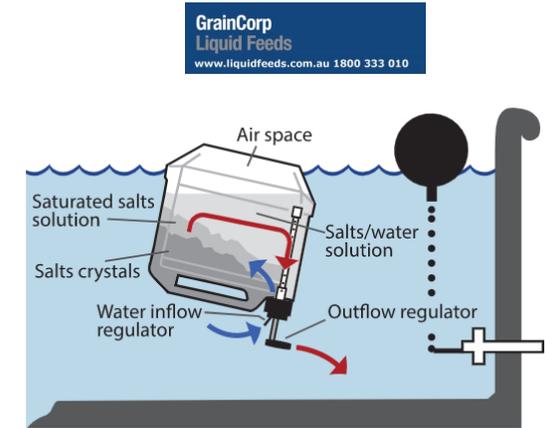
- AusFarm Nutrien Bloat Control 50 / 100 – Liquid
 - Bovatec (**ionophor**) 50-100g/hd/day
 - \$1.45-\$1.73 / l

Bloat Prevention

Spraying Pasture with oil Spraying the entire days grazing with anti-bloat oil requires pastures to be strip grazed to ensure effective control. Oils only give 2-4 hours' protection so therefore need to be applied and consumed during the grazing period. Cows require a dose of 85ml of oil per day.

Water dispenser, pasture addition – dairy type solutions

- I have no experience with these methods. These methods depends on specific situation and assumes cattle are drinking:
- Only from a closed water system
- Must refill daily before cattle drink!



Water Trough Application

Detergent can be added to troughs if it is the only source of water available to the cows. Teric is added at the rate of 40ml per 15lt of drinking water.

Bloat mostly occurs when water content of pasture is around 80% and cool weather, so water intake could possibly be more variable. Rainfall affects water intake.

Peta dispenser – 12 hr or 24 hr (24 hr recommended for beef)



Bloat prevention

Long term

- Capsules (sometime in the future?)
- Pasture mix solutions esp lucerne?

Is the situation changing?

- Do dry springs promote more at-risk pastures?
- Rhizobia not fixing as much N-less grass?
- Longer at-risk period = more deaths?
- Other risk pastures e.g canola?



Factors

31 May, 2017

Controlling Bloat in Dairy and Beef Cows

GrainCorp
Liquid Feeds
www.liquidfeeds.com.au 1800 333 010

Bloat is generally associated with grazing high legume content pastures in spring or autumn. Clover content over 50% is considered dangerous. Occasionally young grasses can also cause bloat if they contain large amounts of soluble protein. Mornings with dew on the pasture or overcast, windy days are frequently associated with bloat events.

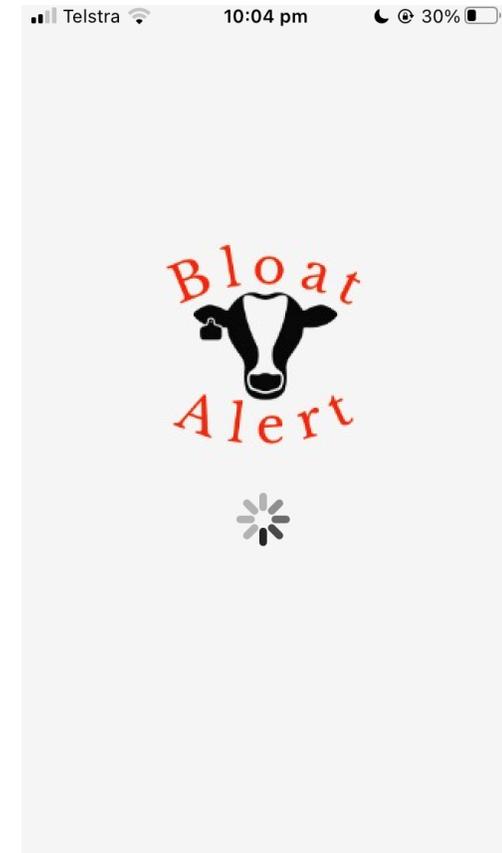
Heifers are three times more likely to die from bloat than mature cows. Jerseys are three times more susceptible than Friesians and crossbreds twice as susceptible.

- Animal susceptibility but aren't we selecting!!! Rate of digestion.
- Plant factors – stress conditions, lushness
- Weather – influence on plant and animals

CSU Bloat Research Program

- Fully funded by CSU- Darcy O'Sullivan Bequest and Fred Morley Centre

2020	Bloat Producer Survey
2021/22	Intensive survey on 35 herds
2021	Bloat Alert app released (i Phones)
2022	Android version released



ORIGINAL ARTICLE

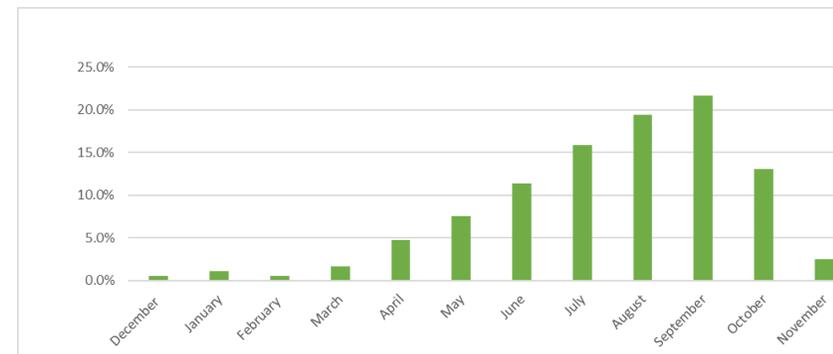
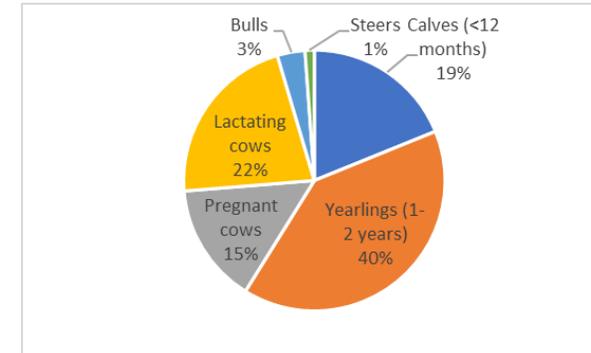
A survey on bloat in southern Australian beef production systems

MB Allworth,^{a,b,*} M McQuillan,^{a,b} SR McGrath,^{a,b} CS Wilson^{cf} and M Hernandez-Jover^{b,c}

2020 Producer Survey



- 224 responses, 218 usable
- 66% of producers with bloat in their herds were using preventive measures at the time
- **Clover dominant and lucerne paddocks** high risk, grass not
- Grazing >7 days, July-Sep, yearling cattle main risk factors
- No relationship for weather
- Respondents were knowledgeable on bloat and confident to diagnose it but not confident to manage and prevent it
- 87% wanted more research – biased as answered survey, but telling.



2021/22 Intensive Survey

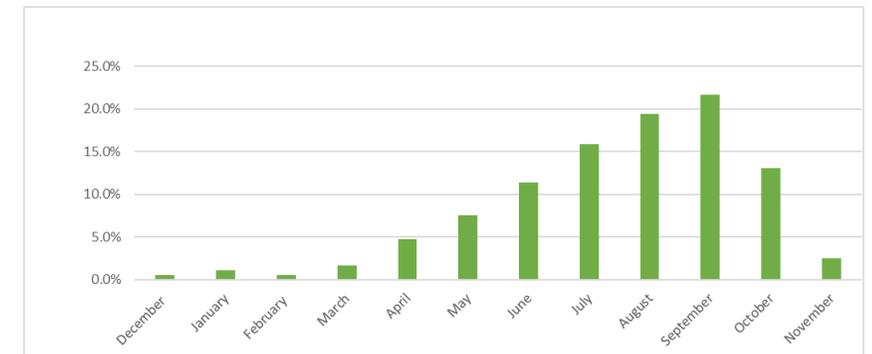
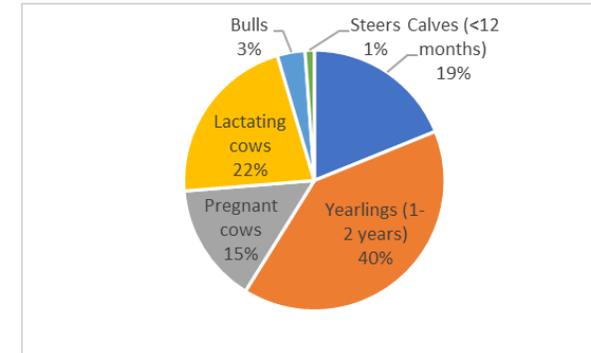


Nathaniel Deans' honours project

- Bloat costing producers more than previously estimated

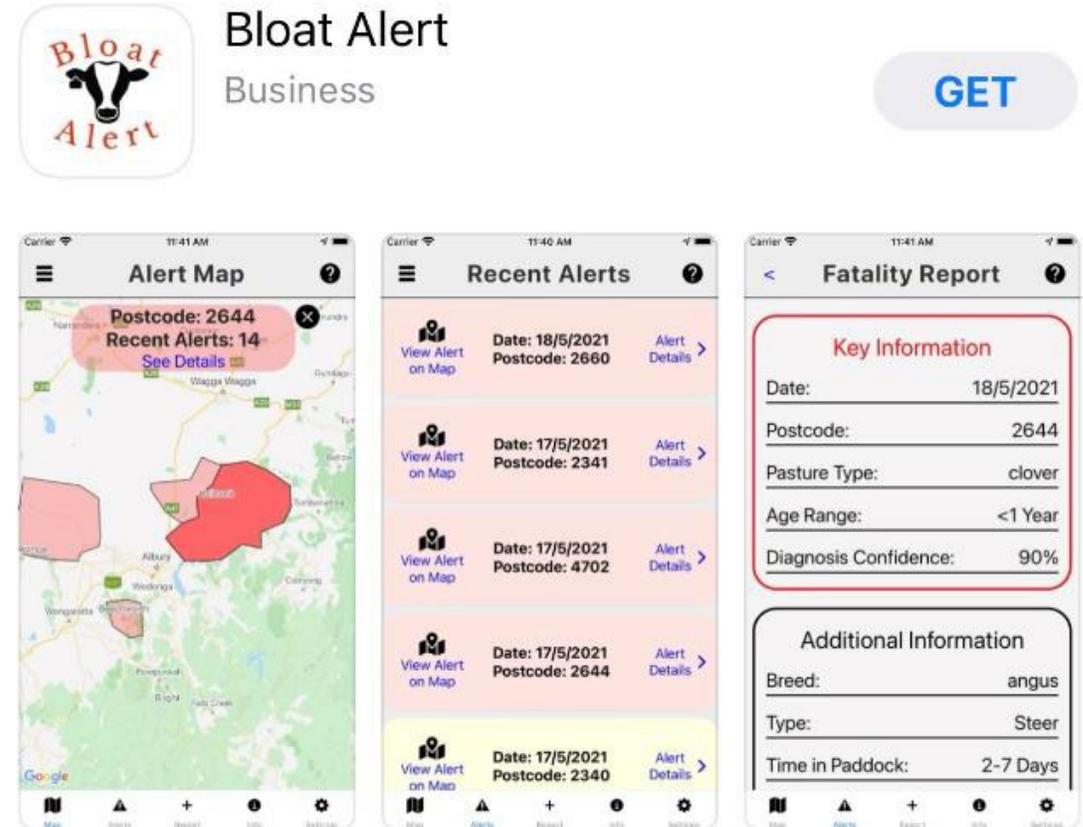
\$67 million (latest MLA estimate) to \$128 million

Based on what producers were actually experiencing



Bloat Alert app

- FREE community-based reporting app for iPhone users
- Download app → Record bloat cases → other producers notified bloat occurring in nearby postcode
- Provides an early warning system
- Helps researchers measure level of bloat and understand conditions in which it will occur



Take home messages

- Blocks, licks effective if animals consume them; hay good too - BUT you will still have losses –
- What works for you is the most cost-effective option!!!!
- Alternate species esp with lucerne?
- Download and use BloatAlert app



Tools and resources

- BloatAlert app
 - Apple store
 - <https://apps.apple.com/au/app/bloat-alert/id1549491524>
 - Google Play store
 - <https://play.google.com/store/apps/details?id=com.animalhealth.bloatalert&pli=1>

