Seasonal Herd Health & Pregnancy diagnosis

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CATTLE HEALTH CONSULTING

Overview

- Introductions.
- Grass tetany, calving difficulties, weak calf syndrome.
- Pregnancy diagnosis in cattle: Why, How, When.

About

- Full time dad of a teenager son.
- Cattle vet by trade + formal training: NZ 12+ years; AU 4 years).
- Last 100% production animal clinician at Roseworthy.
- Cattle Health Consulting (2020), **www.cattlehealth.com.au**
- The Healthy Hoof (2023), **www.thehealthyhoof.com.au**
- Based in Gawler. Service the Barossa, Mid North, Adelaide Hills & Plains, and beyond.
- Dedicated cattle vet: 365, 24/7.
- Independent vet & consultancy service, simple business model, mobile vet-lab-office van, aiming to add value to the call out, consistency.

Grass tetany (hypomagnesemia, grass staggers)

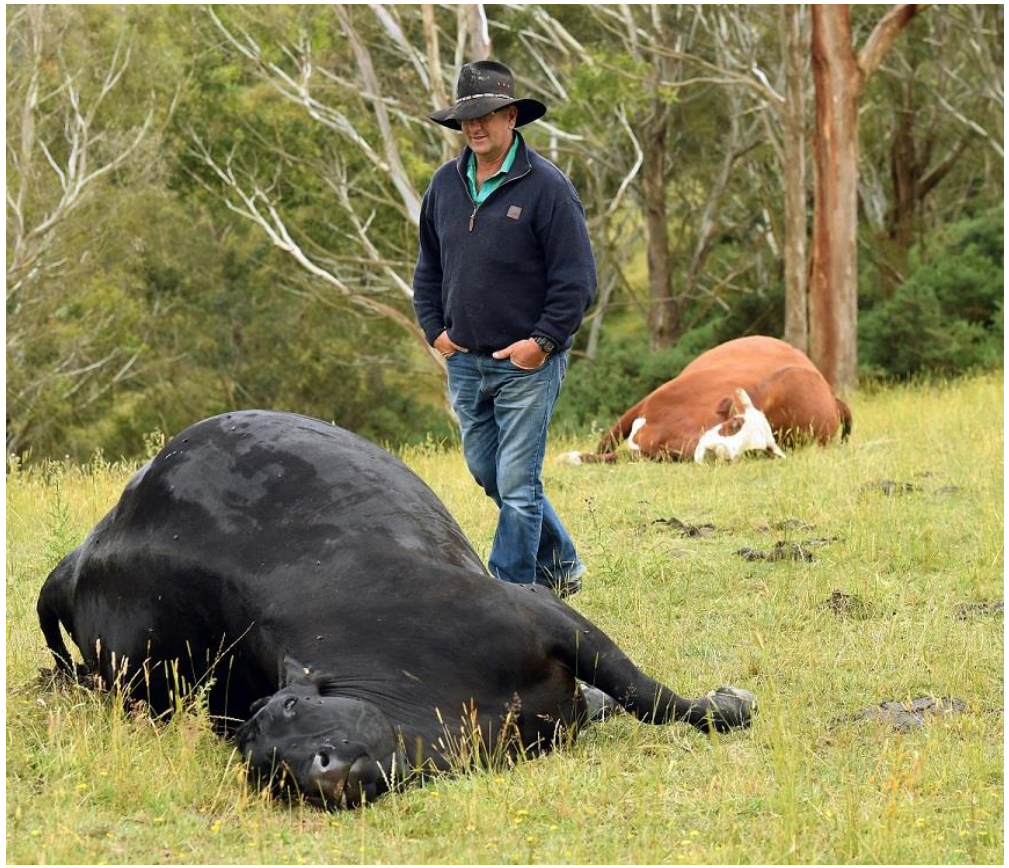
- Complex disease - several factors usually concur.
- Costly disease for the producer.
- It’s easier to manage/monitor on dairy cattle.
- Frequent cause of sudden death in ***late Autumn/Winter & Spring.***

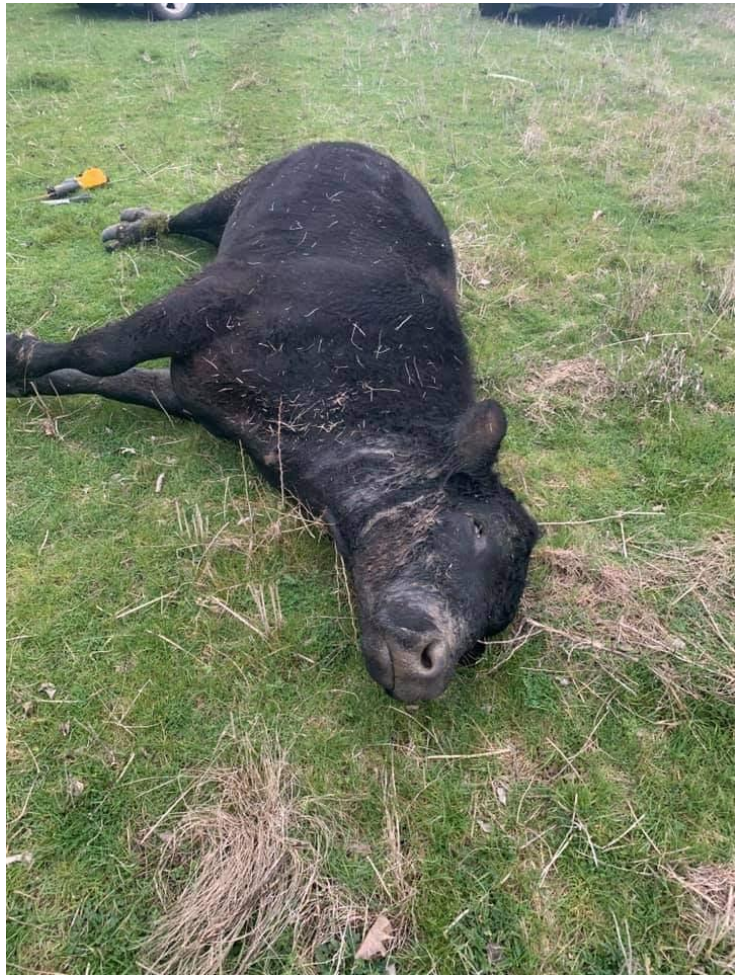
Grass tetany

- Any age but most commonly old/fat cows with a calf on foot, on lush grass pastures, in pick lactation (6-8 weeks from calving).
- During the last 2 weeks of pregnancy onwards.
- Less frequent in younger cattle.
- Triggered by a **stressor** (autumn/winter storms, fasting, yarding, transport, etc).
- Mg blood levels were marginaly low prior to the stressful event.

Grass tetany: signs

- Often found dead ✝ with evidence of straggle around on grass or soil.
- Animals still up: staggery, stiff walk, tremory, exaggerated awareness, aggressive, excitable, muscle twitching.
- Lateral recumbency (laying on their side): paddling, grinding teeth, muscle spasms, final convulsions, death.





Grass tetany: differentials

- Call your herd vet for advice if not sure.
- Other diseases can cause sudden death and/or neurological signs:

-nitrate poisoning

-ryegrass staggers

-annual ryegrass toxicity

-lead poisoning

-polioencephalomalacia (PEM)

Grass tetany - physiology

- Mg is essential for normal function of excitable tissues: brain, nerves and muscles.
- Although Mg is stored in bones & muscles adult cows can’t mobilise it rapidly.
- Daily losses Mg in milk, urine and faeces continue regardless.
- Cow needs Mg in feed on a daily basis to meet daily requirements.

Grass tetany - physiology

1.- Most cases is insufficient Mg intake:

- Inadequate amount Mg in pasture/feed **<2g/kg DM of Mg (<0.2%kg DM)**
- Or, simply not enough food on offer.
- Deprivation of food (inclement weather, fasting, etc).

2.- Reduced absorption (uptake) due to blockage: excess of potassium (K) and protein, or insufficient sodium in the rumen.

Grass tetany - other risk factors

- Winter active grasses and cereals are low in Mg and often high in K.
- Potash and nitrogen fertilisers are used and growth is vigorous.
- Lush pasture: rapid gut transit and low Mg uptake. Spring GT, after a good Autumn break.
- Low energy intake, fasting or sudden changes in feed.
- Low roughage intake (young grasses have low roughage and often poor palatability).

Grass tetany - mortality & fatality

- High risk areas/farms/paddocks: 2-3% mortality typically;

  high risk area in a high risk year: 5+%.
- Disasters: 10-20% in some mobs.
- In my local experience: mobs of 60-80 cows: lost 3-4 cows per outbreak.

Grass tetany - mortality & fatality

- High fatality rate: 40-60% of cows showing more severe signs don’t recover despite treatment.
- Relapses are common.
- It’s a herd problem: other cows will be subclinically Mg deficient.

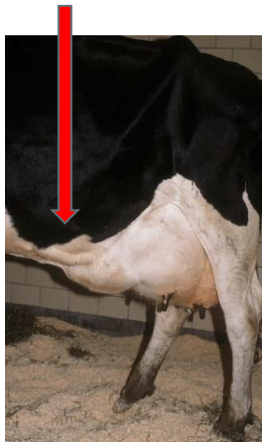
Grass tetany: treatment

Treatment of cows that went down

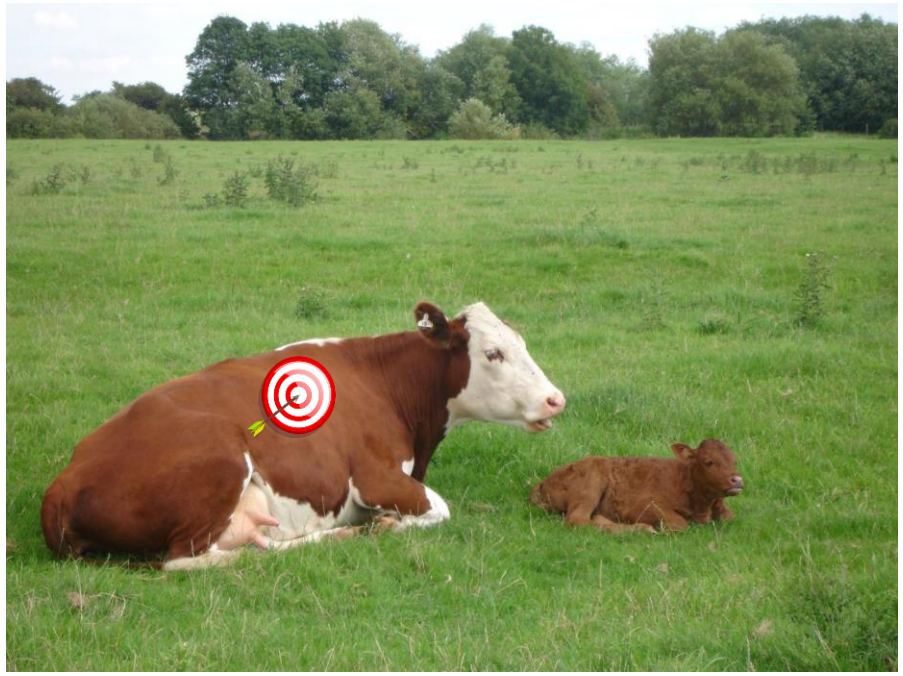
- Intravenous and Subcutaneous solutions.
- "4 in 1" Solutions (500mL): *Calcium, magnesium, phosphorus, glucose*: *Minbal, Minject.* Safe to use IV or SC.
- Mag Sulphate (350mL): lesser known/available at retail shops. Subcutaneous only!

Grass tetany: IV treatment

- Aim for jugular vein. Mammary vein it’s an option.
- Halter/rope to restrain head to back legs.
- Pointing needle towards the heart.
- Use 4 in 1 solution 500mL, warmed up.
- Aim to give x 2 x 500mL IV, slowly.



Grass tetany: Subcutaneous treatment



- Complementary to IV treatment.
- Or, if IV is not possible.
- 1-2 bags of “4 in 1” soln
  And, ideally,
  1 Mag sulphate 350 mL soln SC
- Massage volumen under the skin to help absorption.

Grass tetany:

What to do with the staggery cattle?

- Don’t chase them up. Likely to go down, convulse, die, attack.
- Monitor them from distance and treat asap if any is gone down. Subcutaneous it’s fine.
- Feed the mob with hay and Mg Oxide (Causmag) 60-100g/head/day

Grass tetany: prevention

- **Asses annual risk:** If seen most of years, you are at high risk and you would need to plan for annual or long-term interventions.
- **Identify risk for the season**: early wet Autumn. Grass dominant pastures. High body condition.
- **Identify high risk paddocks:** soil & pasture tests results & your past experience.

  Pasture testing: K >2g/kg DM (high risk).

  Soil testing: K/(Mg+Ca) ratio is > 2 (high risk); K levels 1.5x recommended for your soil type (high risk).

  Low pH soil increases the risk also.

Grass tetany: prevention

Low risk situation:

- **Lick blocks:** Not cheap.
- **Dolomite & Salt:** 65% dolomite 35% salt.
- They work okay in low risk situations.
- The issue is the variable individual intake.
- Adequate number of blocks or through space.

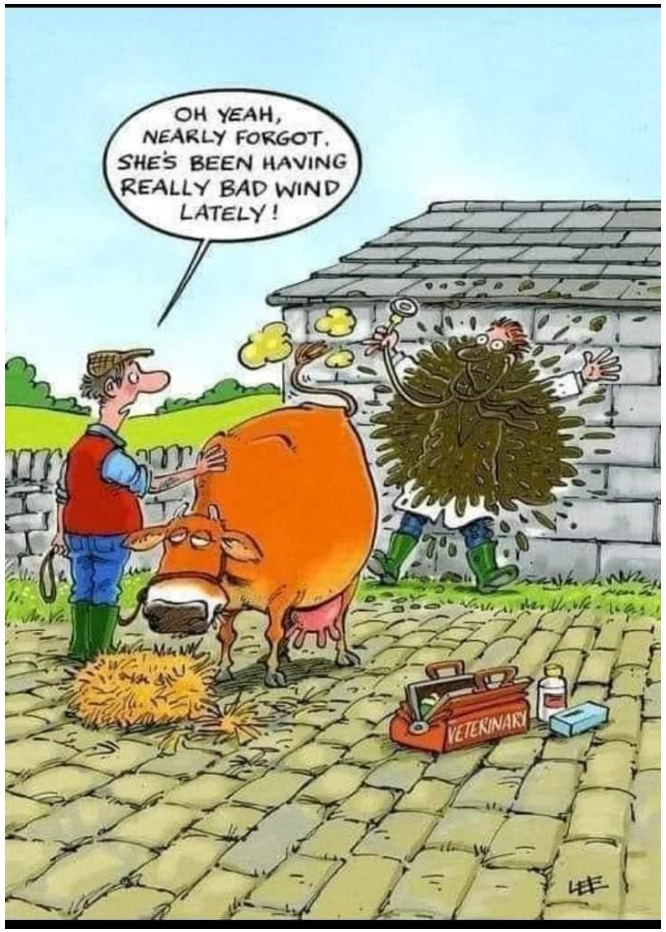
Grass tetany: prevention

Moderate to High risk situation:

- Hay: very good when the risk is moderate and insufficient feed to offer is the case.

High risk situation (season, year, mobs):

- **Hay/Mg Oxide:** it's a very effective option. Make a slurry and spread on top of the hay. Or, add Mg Oxide when making the hay. Feed out every second day minimum.
- **Molasses/Mg Oxide:** more palatable & expensive. 50:50 mixture. Can use old 44's.
- **Loose licks:** multimineral loose licks.
- **Magnesium capsules/bullets:** 2 weeks before calving. Calving dates? Feed hay/Mg Oxide before yarding.
- **Salt:** increases Mg uptake by reducing K in the rumen. Don't rely only on supplementation of Mg.


OH YEAH, NEARLY FORGOT. SHE'S BEEN HAVING REALLY BAD WIND LATELY!
VETERINARY
LEE

Weak Calf Syndrome

- “Weak Calf Syndrome” is a broad term applied to a calf born alive but lacking in vigor, slow to stand, and may not attempt to nurse. They usually don’t survive.
- Those who survived are more prone to succumb from scours, pneumonia, bad weather, etc.
- Affected herds may also see an increase in aborted/stillborn calves, calves born with deformities, blind, brain damage.
- Full term abortions, stillbirths, neonatal death are all in fact a reproductive failure.
- Reproductive efficiency is one of the most important economic factors in beef enterprises.

Weak Calf Syndrome

Risk Factors:

- Inadequate nutrition of the dam (last 2-3 months pregnancy highest demand).
- Difficult calving (dystocia).
- Mismothering, bad udder conformation.
- Heifer, old cow or skinny cow at calving.
- Infectious disease: Pesti (BVD virus), Leptospirosis, Vibriosis, Neospora.
- Cow’s trace elements deficiency: Se, Cu, Cobalt, Zn.

Weak Calf Syndrome

Pesti (BVD virus)

- Extremely common virus in cattle herds and can cause a range of disease syndromes, including reproductive failure, abortion, and birth of abnormal (often small) calves with/without brain damage.
- Pesti is so common out there and it’s only a matter of time you will encounter it.
- Frequently brought in via introduced cattle (carrier, PI or persistently infected animal). They usually look normal and healthy.
- Over the fence cow contact.

Weak Calf Syndrome

Leptospirosis

- Leptospirosis is a highly infectious bacterial disease.
- Affects humans also: zoonosis (symptoms range from a cold-like disease, chronic fatigue, death).
- Bacteria are shed in urine & foetal fluids of infected cattle.
- It can survive for long periods in the environment, especially in wet conditions.
- Can cause full term abortions, birth of weak calves.

Weak Calf Syndrome

Minimising reproductive wastage:

Cow selection:

- Selecting female cattle that are able to rear calves to weaning.
- Eliminating bad attibutes that may contribute to calf loss: bottle teats, poor maternal temperament.

Weak Calf Syndrome

Bull selection:

- Using bulls confirmed as fertile by a breeding soundness evaluation. Sub-fertile sire in a single sire situation can be a nightmare. Spread-out calving, poor pregnancy rates.

Disease management:

- Pestivirus status of the herd known? The approach is different for each herd. As minimum, when purchasing cattle, request paperwork of previous testing/vaccination.
- Preventing shedding of Leptospirosis. Use 7 in 1 vaccine (Clostridial & Lepto).
- Vibriosis. Vaccination of bulls and heifers.

Weak Calf Syndrome

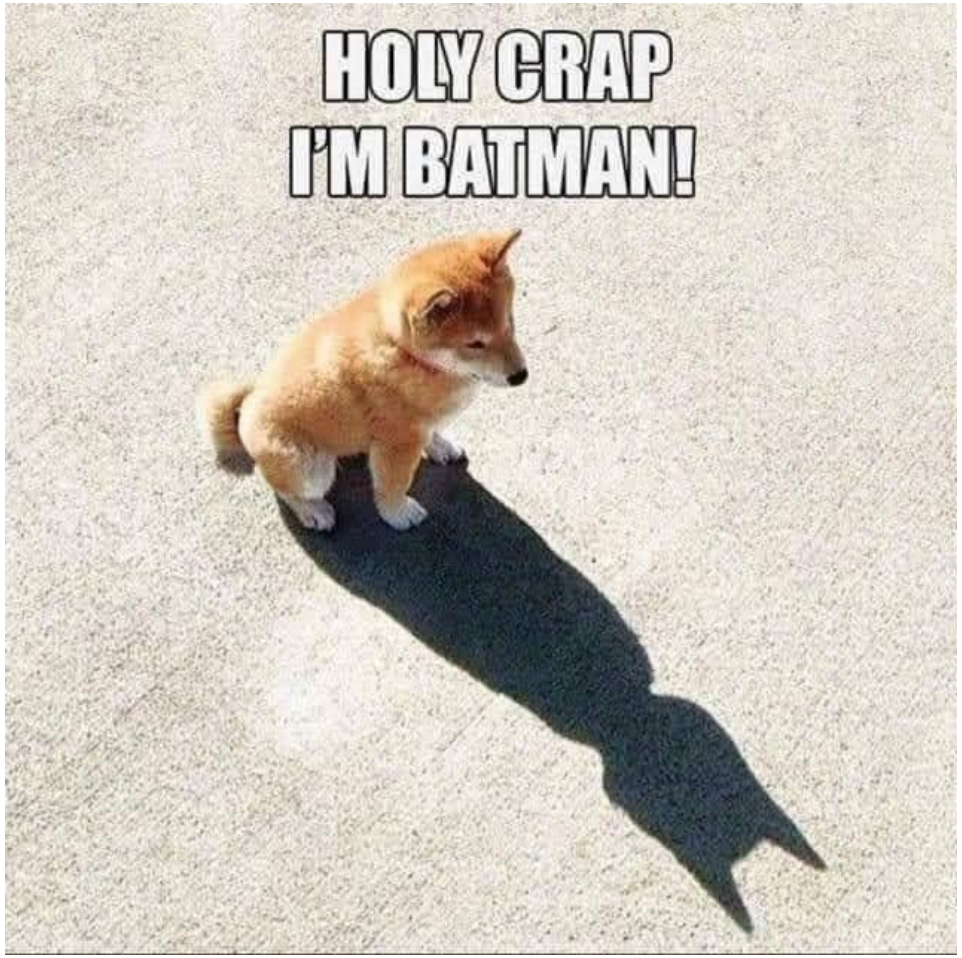
Dystocia management:

- Minimum target weight for heifers.
- Sires and females with traits indicative of calving ease.
- Maintain growth and forward body condition in pregnant heifers, especially during the first half of pregnancy. Avoid obesity at calving.
- Monitor calving and provide early assistance if required.

Trace elements:

Multimin or *Marks Min* (Cobalt): Females: 4 weeks prior to joining and 4 weeks prior to calving.

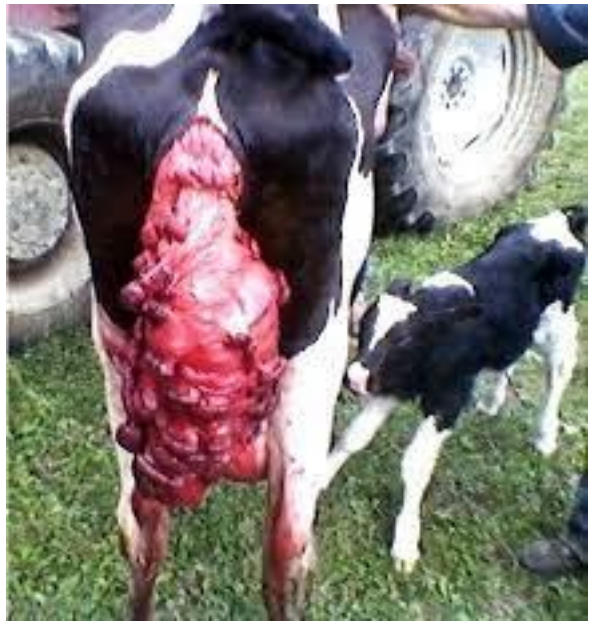
Bulls: 4 weeks prior to joining.


HOLY CRAP
I'M BATMAN!

Calving difficulties

- **Dystocia:** Assisted calving, timely intervention.
- **Retained placenta:** normally membranes expelled <12hrs; Call the vet if > 4 days. Needing antibiotic treatment at that stage.
- **Prolapsed uterus:** true emergency! Can occur when pulling a calf from a heifer or fat cow. However, most commonly in mixed age/older cows with subclinical low blood calcium. Call your herd vet. Don’t treat with 4 in 1 soln unless cow is really flat. Secure sitting on the chest with bales until vet arrives.

Prolapsed uterus



Prolapsed vagina:

- Always pre-calving
- Smaller size of the “ball”
- Usually when on heat
- Related to hormones/ligaments
- Tends to run in lines
- Get it fixed and then sell it!

Calving difficulties

- **Milk fever:** very rare in beef cows. Down cow, cold, non-alert. It can happen 2 days before to 2-3 days after calving. 4 in 1 solution, Double-cal.
- **Pregnancy toxemia:** not a calving difficulty *per se*. Cows going down 4-6 weeks prior to calving due to insufficient energy intake. Almost all die despite treatment (induction of calving, Ketol, etc.). I have seen it mostly on skinny pregnant with single calf. Not necessarily twin bearers like in sheep.
- **Mastitis:** cow kicks calf away; quarter (s) reddish/enlarged. Check her up in the crush and feel it, strip out to see changes in milk. Require antibiotics (injectable it's easier).