

REEF CATCHMENTS

GRAZING MANAGEMENT FIELD DAY

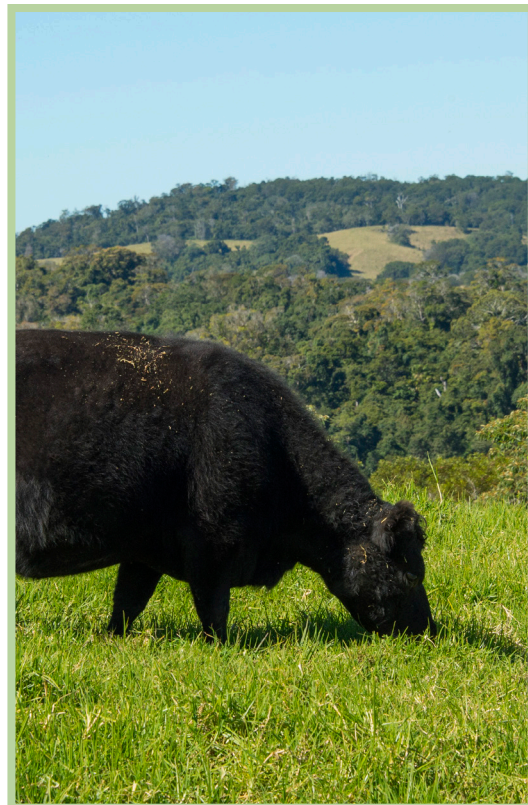
THURSDAY | 3 SEPTEMBER



HANDOUTS

AND NOTES

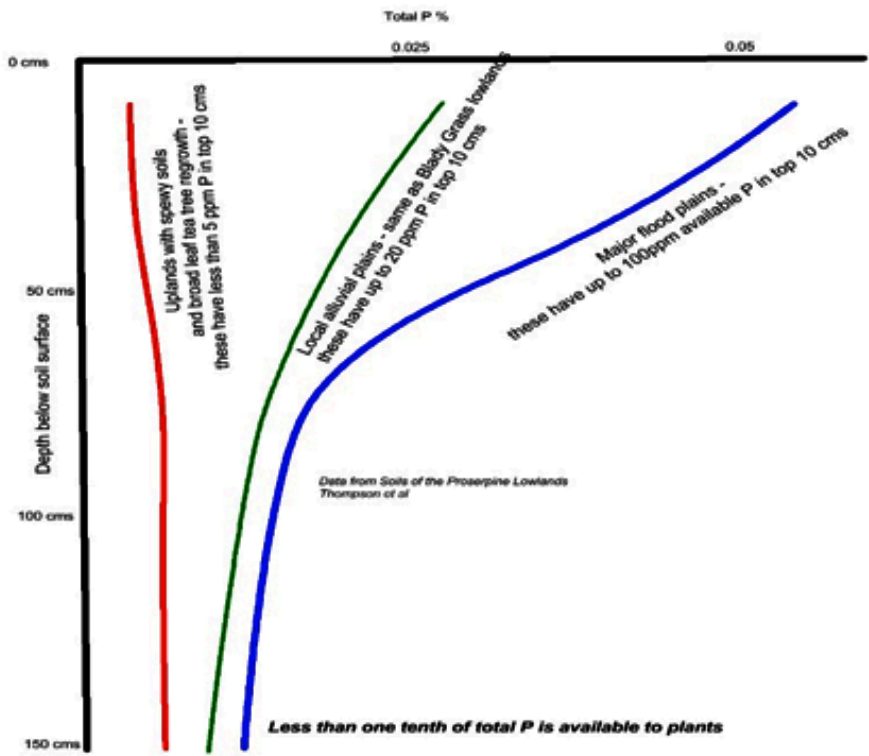
Bill Thompson | Land Management Consultant



How important is erosion in Grazing lands?

Erosion that removes the surface soils also removes the most fertile layer that cattle and plants rely on for their nutrition intake.

This is the Phosphorous story from the Proserpine Lowlands.



What is more important - Erosion of surface soils or gully erosion in streams?

	5 ha eroded to a depth of 100 mm in low fertility breeding lands	1 ha eroded to a depth of 50 mm in local alluvial plain	Gully retreat 10 m long to a depth and width of 1m in a creek/gully in local alluvial plain
Total P level in eroded material	0.01%	0.05%	0.035%
Kgs of P in eroded material	10	10	7
Proportion detained before it enters stream	25%	25%	1%
Net kg of P export to stream	7.5	7.5	6.9

Whilst how fast grazing lands are eroding and what proportion of that would be occurring anyway is the subject of both producer and scientific debate, it is probably a fair bet that erosion from grazing lands is equally important – the more so because it has a direct effect on the grazing land productivity.

Soil Fertility Levels of Importance to Grazing Lands in the Reef Catchments area

Based on Information Series QI94065

THE SOIL FERTILITY OF CENTRAL AND NORTH-EAST QUEENSLAND

GRAZING LANDS by C.R. Ahern, P.G. Shields, N.G. Enderlin and D.E.

Baker Meat Research Corporation, Department of Primary Industries

	P sol P levels <10 ppm in soil are low	S	Ca exch Ca levels <2 meq/100 gms in soil are low	Salt (Sodium)
Why are these important	Critical to rumen activity and very critical to growing and lactating animals. Without P in soils legumes will not establish or persist and the N kick from legumes in pasture will not occur. It is much cheaper and efficient to add P via the mouth of the animal if P deficiency in the animal is the main problem.	Plays a similar role to P however, S deficiency is likely to be only apparent where both P and N are limiting.	It may be important to make sure that breeders in milk have access to better Ca areas.	Na/K balance in the diet is important to physiology of cattle and rumen activity. Where salt is low, salt based licks carrying other nutrients may be an excellent tool to train cattle.
Deep Red clay soils formerly Rainforest Areas	Moderate to High	Commonly Low – S is more easily leached out of soils than P	May be low	Always low – salt based licks an excellent tool
Flood Plains	Moderate to High	Variable	Commonly OK	Often OK
Salt Couch Flats (Beach ridge are low fertility)	High	High	High	High
Coastal lowlands and gentle sloping uplands dominated by blady grass	Moderate to low	Variable	Commonly moderate	Low to moderate depending on soil type
Undulating coastal foot hills – sandy spewy soils common in Proserpine Bowen lowlands – broad leaf T tree regrowth	Low to extremely low	Often low	Sandier areas will be low	Variable, base of slopes may have salty areas where cattle will concentrate – particularly where couch grass dominates. Sub artesian bores in these areas will be saline and cattle will travel to these bore watered areas for salt.

Nitrogen – N or protein levels will be limiting in all pasture diets (other than salt flats) no matter where you are once the pastures dry off. As in the case of P, it will be much more effective to add N direct to animals because of the Nitrogen fertilisers added to soils is very unstable and volatile. For growing and lactating stock, some supplementation (urea licks, more complex by pass protein licks) will be beneficial. Cattle will travel long distances to access these licks.

The pros and cons of breeding herds

THE POSITIVE ASPECTS

- Breeding herds are the cheapest way of producing an animal for sale – particularly in times of high prices.
- With the switch to market needs for lower age stock, store and feeder animal turn-off has dropped from >2 years to 12 months from breeding herds, which basically allows more breeders to be run.
- The increased use of terminal sire breeding herds (where no replacement heifers are kept; calves are sold at under 12 months often straight off mothers; and breeders are culled for age and fertility when in meat works condition) has improved the breeding business model.
- The old breeding and the new breeding business models are not as reliant on cattle trading and volume/economies of scale outcomes as fattening models.
- You often have a wider range of market options – live export, local butcher trade, feeder cattle market, replacement breeder market and cull to meat works.
- Approximately half of the once pure fattening enterprises have developed a breeder component as a result of market opportunity changes, the focus on lower age turnoffs and feed lot growth.
- You are not as subject to processor issues whereas fattening operations need to be at a significant scale to better position themselves with processors.

THE NEGATIVE ASPECTS

- Breeding herds often have a lower turn-off of liveweight per ha than fattening or non breeding stock.
- Breeding herds commonly have higher nutritional requirements that vary from season to season. If these requirements are not met, herd fertility/productivity drops rapidly.
- In most parts of the state, the peak calving period coincides with the most risky rainfall and pasture growth period.
- Control mating aimed at calf drop after the season has broken is not as widely practised as it could be in some areas.
- Breeders that calve out of season have lower value, age to turn-off increases and fertility declines whilst the breeding lands are put under excessive grazing pressure.
- In fattening operations, there is more flexibility in turn-off and it is a simpler exercise. If the season fails and you can see turn-off periods lengthening etc, the stock can be sold into the feeder market lessening pressure on the grazing lands.

Question that might need answering about the Role of Fencing in Grazing and Erosion control and management.

QUESTIONS

- **Q1** What is the cause of the erosion - is it you the land manager, the quality of your land or natural processes? The answer will almost inevitably be all three to varying extents.
- **Q2** If it is overstocking producing sheet erosion of topsoils, can you change your herd/pasture management system to lessen pressure by use of watering points, supplementation and herd structure changes?
- **Q3** Is the way cattle access stream lines causing stream bank or gully erosion? Can you divert cattle to other locations with simple low cost fencing arrangements?
- **Q4** Why do cattle concentrate at certain points in the paddock? It will be because of salt and nutrition requirements. Can you divert them to other areas using licks or dispersal watering points?
- **Q5** Is it possible to keep cattle off sensitive areas during critical stages in the year? Land type fencing that also results in cattle being able to be rotated through paddocks is an excellent method. For example – fence off your alluvial and flooded plains if stream bank erosion is a major problem and stock at lower intensity during the wet season. Increase stocking on the non-flooded areas during the higher pasture growth wet season and use the flooded and alluvial plain areas more heavily in the dry season. Use fences to manage both cattle and country.

SOME SUMMARY POINTS

- Work out why your cattle use various types of your country in different ways.
- If the way they use the country is related to the structure of your herd (breeding versus fattening, control mating, turn off target etc) can you tweak your herd structure to better manage grazing pressure and make your grazing system more resilient?
- When you decide to invest in fencing and watering points, design it so it makes your management simpler, then adjust your plan to ensure grazing pressure on different land areas is better managed.
- Consider your supplementation program as an integral part of herd and pasture management.
- Tailor your supplementation program to the type of country cattle are on.
- Never place supplementation in those parts of the grazing lands that already have good levels of nutrients - a very common mistake. Cattle will not travel for nutrients if they do not have to. They will flog the better quality lands (commonly those close to streams/water as a result).
- Train your cattle to forage the full paddock. For example if cattle are concentrating along drainage lines chasing salt (typically in so called breeder quality lands) use salt licks placed away from these areas with nutrient to train cattle to travel. Develop water points away from these areas to train cattle away from frontage lands.