

Werrington Station – “Hope is not a plan”

Russell and Donna Lethbridge, Werrington Station, The Lynd, North Queensland

- **Improving efficiency of the production system to maximise profitability**

The Lethbridge's; Russell, Donna and their family as well as Russell's parents Lux and Linley, own and operate Werrington Station in far north Queensland (300km west of Townsville). Werrington is a grass-fed beef operation comprising of 19,500 hectares of predominantly native pasture with some indian couch plus seca and verano stylo. The property consists of largely undeveloped open eucalypts forest with a range of soil types varying in fertility with phosphorus deficiency common. Werrington receives an average annual rainfall of approximately 700 mm with considerable rainfall variability. As with most extensive grazing operations, managing seasonal variability is challenging.

Werrington is run in conjunction with Rainmore Station, 28,000 ha of buffel grass on brigalow country located around 70km south of Alpha (central Queensland). Werrington carries the majority of the breeders while cattle grow out on the improved pasture at Rainmore. This arrangement offers the Lethbridges improved annual liveweight gain (LWG) and access to additional high value market opportunities then they would have in a northern only operation. Additionally, the family also have breeding cattle agisted on a number of properties which further diversifies their risk, creates flexibility and allows them to alleviate pressure on Werrington in poor seasons.

In total, the business has a herd of about 10,000 cattle divided between the various properties with 80% of the operation's male cattle being turned off as feeder stores in the 450-520kg weight range for feeding to the 100 day grainfed, Jap Ox market. Other markets also include domestic feeder and slaughter as well as the live export market. Price and market conditions dictate which markets are targeted. Ideally cattle are sold in the early months of the year when suitable feeder cattle numbers are low and prices are attractive. The primary management strategy is to maximise the available natural resources to create a profitable and resilient business. Russell ensures that during favourable conditions, breeders are set up as best as possible to provide for the inevitable dry season.

- **Managing Climatic Variability**

Climatic variability at Werrington Station makes operating an efficient breeder enterprise very challenging at the best of times. Being located approximately 750 metres above sea level, temperatures at Werrington can range from 40°C in summer to -10°C (grass temperature) in the winter. Native and stylo improved pasture systems dominate the Northern Gulf region where Werrington is situated. Protein levels of these pastures are typically below 6% maintenance requirements of the average breeder for 7 to 8 months of the year. Achieving animal performance under these conditions is challenging. Russell points out that unlike the Southern Gulf where one of their agistment blocks is located, the Northern Gulf region generally has greater wet season reliability with shorter duration drought periods.

“there are not many production systems as simple as North Queensland in terms of a relatively guaranteed dry season with little or no winter rain (any substantial rainfall in winter is a bonus).

By April, producers should know what feed they've got going forward for the dry season and make stocking and management decisions to account for the feed availability to minimise production uncertainty.

However, on the Mitchell Downs country, where long periods of extreme dry (in some cases in excess of seven plus years of dry conditions) means there no amount of planning can negate or

insulate the business from these climatic extremes. The business model (trading rather than breeding) needs to account for the possibility of extended dry times. Hope is not a plan”.



Photo: Russell Lethbridge considers feed availability and groundcover priority in a successful northern grazing business

Grass is key and adjusting stocking rates earlier and making management decisions in this riskier system is essential to ensure a system is in place to cope with prolonged dry periods. In some cases, this may include complete destocking of a property for an extended period. Grass and adequate ground cover are absolutely essential for moisture retention, giving the pasture a chance to respond to rainfall when it comes. Heavily grazed paddocks will not respond well to rain and this reduces the annual land condition and carrying capacity.

Russell identified that if increased variation in climate means we get shorter harder bursts of rainfall, then we need to conserve every drop of rain and poor groundcover will not assist in moisture management and retention. Stocking rates are adjusted seasonally to ensure adequate ground cover and a third of the country is spelled every wet season for the duration of that wet season.

Trigger points and decision dates are important. Before Easter plans are made and implemented to ensure sale decisions don't have to be made as a matter of urgency due to lack of feed.

- **Managing the herd**

Segregation

Segregation is key to ensuring efficient production systems are in place to maximise productivity and profitability. By segregating, Russell can target the most productive females in his herd and sell under-performers out of the operation. Pregnancy testing at the end of the wet season removes older and empty breeder cows. Werrington only carries productive females through the dry season. As Russell pointed out *“the earlier an operation removes underperforming animals*

as the season starts to turn dry, the more buffer you put in the system and the more relief you provide for the remaining animals”. Moving early and preparing for the dry season means sale decisions are made long before feed pressures are experienced. This avoids the need for quick sale of stock when the prices are low (poorer animal condition or market periods of large sale numbers).



Photo. Russell Lethbridge surveying Werrington weaners

- **Controlled mating and early weaning**

The Lethbridge's manage a 120-day seasonal joining period with calving from September to December. The last calves are born around Christmas Day. This means that the cow's peak energy and protein demand aligns with the best pasture production (January to March). Joining females as much as possible in a set window, gives them the best chance to maintain performance in subsequent years. Preventing the calving window extending into late summer ensures breeders are not carrying calves through the worst time of the year (April to September) when pasture quantity and quality is declining. Werrington puts any breeders calving outside this window into a separate paddock. This strategy reduces losses and improves efficiencies in supplementation and mustering costs. Sorting the herd into tighter management groups ensures the system is as cost-efficient and productive as possible. March weaning rather than the common regional practice of May/June (or later at first round mustering), provides breeders the best opportunity to maintain body condition which decreases supplementation costs and mortalities while improving reproductive efficiency.

Heifers are segregated and managed separately until they are pregnant with their second calf. In northern herds, heifers are traditionally difficult to rebreed and through targeted management, the Lethbridge's have made substantial gains on rebreed rates. Heifers typically comprise 20%-30% of a herd so improving the reproductive performance has a significant effect on the whole of herd performance.

- **Ensure heifers finish calving by mid-December to provide an extended window to get young females back in calf the following year**
- **Young females are the most at risk group, Russell ensures that heifers are segregated and there is a fresh paddock for first calvers to enter from the start of calving along with four to six weeks of M8U**

In northern breeding operations, it is common to find 5% rebreed rates in heifers, given the challenging environmental conditions, so it is vital to look after this group and ideally have cattle that are genetically adapted to conceive in a lower body condition.

Segregation of females into calving groups allows

- **Tighter control and management**
- **Ability to target feeding, mustering and sale groups when required**
- **Pregnancy testing provides the ability to remove empty animals first, increasing availability of remaining feed to productive animals**

These strategies have decreased breeder mortalities from 5% to 0.5% and increased culled cow slaughter weight by 10-15%. Breeder selection based on temperament is critically important, and weaners go through a thorough education program to ensure the herd remains quiet and easy to handle.



Photo. A mob of young cattle at Werrington

- **Supplementation**

Wet season access is a common impediment for producers feeding P in north Queensland. The distribution of wet season P feeding program fits in with the rotational wet season spelling so is limited to two thirds of the property. The use of bulk bags (300 kg) have helped overcome issues with wet season distribution of P supplement and Werrington achieves good daily intakes of P with this delivery system.

These improvements in management have lowered input costs by enabling the operation to target supplementary feeding programs and reduce mustering requirements. Feeding of phosphorus throughout the year based on new evidence from Kidman Springs heifer trial work, has improved production performance on Werrington. Providing adequate phosphorus supplementation over the wet builds buffers in the system by ensuring high body condition on breeders. In some cases, breeders are 30-40 kg heavier on P-supplement while feeding a calf. This sets them up well for successful rebreeding.

- **Adapted Genetics**

The selection of cattle genetics that are highly adapted to the north Queensland environment is critical to business sustainability. Emphasis is placed on productive cattle that will continue to reproduce and thrive when unfavourable climatic and seasonal conditions are encountered. The Lethbridge family understand the difference genetic selection can have on a breeding operation. Breeding cattle under environmental challenging conditions, the Lethbridge's have managed to improve their weaning rates from 47% to 76% over the last 20 years. Russell says that there has been no single silver bullet to this achievement but rather a combination of strategies involving herd management, genetic selection and pasture and nutrition management.

CashCow, Repronomics and now the Northern Genomics Project have all identified that fertility is the single biggest profit driver in the north. However as Russell points out, northern Australian graziers have indirectly selected against fertility for about 50 years. Weaning rates of 40 to 50% are not uncommon throughout the region.

Selection of genetics that is going to perform has been a crucial component of the Lethbridge's drive to creating an efficient, productive and profitable cattle business. Bulls are selected on data and rebreed rates through generations of dams using days to calving EBVs, low age of puberty thresholds, scrotal circumference measurements and the live export and Jap Ox indexes for Brahman cattle.

The emphasis here is on an adapted medium frame environmentally suited cattle that can deal with the unfavourable seasonal conditions that it will encounter.

- **Infrastructure Development**

Property development has played a large part in assisting the enterprise to achieve strong results. By doubling the number of waters and paddocks, the business had reduced grazing pressure and improved pasture utilisation. Additionally, improved pasture development (mainly the addition of stylos into the pasture mix) has had a positive effect on production. Future pasture development will play an important part in improving productivity into the future. R&D into pasture mix programs is vital for improving productivity and the future resilience of the industry. Good paddock infrastructure in place allows for segregation and feeding efficiencies in the herd. If infrastructure in a paddock is inadequate, Russell strategically targets molasses feeding and watering points thus providing ability to manage if need be. Current water infrastructure on Werrington means that there are less than 2km grazing circles with clean water essential. Some new water infrastructure including solar pumps is planned, to improve time management and reduce costs.

- **People in Business**

At Werrington the emphasis is on an open working environment where everyone in the family is encouraged to put forward their ideas and all are discussed. Everyone has a say in the business. Producers must remain informative and open for information – up to date with changes particularly in an ever increasing IT age. It is important to get into a good habit of decision making – making timely and informed decisions and most importantly acting on them. Werrington has hosted producer focused events including Keep in Touch (KIT) days through RCS.



Producers and agribusiness staff looking at stylo seeded paddocks at Werrington during a RCS Keep in Touch Day

Summary

Russel comments that these management systems take several years to set up and good grass management is the foundation. At Werrington, having good buffers in groundcover and pasture quality, means that overall management does not change dramatically regardless of the season and adjusts according to climatic, market and seasonal conditions. Russell stressed that future R&D work into supplementation is essential to ensure relevant up-to-date efficient feeding rations into the future. Although, it a relatively simple production system (certainty of dry season and some degree of wet season) Werrington too still gets in wrong and needs to adjust management practices accordingly. However, he stresses the need to have buffers in the system to allow unforeseen operational decisions to occur without putting undue pressure on the system or the people. The combined impact of these management changes over time has seen Werrington reduce breeder mortalities from 5% to 0.5%, increase weaning rates from 46% to 78% and improve groundcover property wide.