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GRAZING STRATEGIES FOR TOMORROW – THE PIGEON HOLE PROJECT

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ABSTRACT

The Pigeon Hole Project will develop strategies to cost effectively accelerate the rate of development of the Northern Australian Beef Industry, in an attempt to off set the impacts of the cost price squeeze. This project will ensure this development is conducted in a sustainable manner by investigating the level of development required to achieve uniform grazing distribution, the optimum levels of pasture utilisation, the conservation and biodiversity implications of intensive development and more efficient grazing management strategies. The economic and practical implications of this research will be evaluated by Heytesbury Beef as the commercial partner.

INTRODUCTION

There is significant potential to further develop the pastoral capacity of northern Australia. Stocking rates are one of the key factors impacting the profitability of many northern pastoral businesses. Many producers in this region currently graze an average of less than 10% of the annual pasture growth each year, where recent research suggests 20% to 25% can be sustainably grazed (Ash 2001).

In many cases, increasing stocking rates under currently levels of development has resulted in pasture degradation adjacent to the water points and low levels of pasture utilisation further from the water points. One of the key factors influencing the industry's capacity to sustainably achieve higher stocking rates is the level of development of the paddocks required to address this issue of poor grazing distribution. Paddocks need to be developed to a point where cattle uniformly graze the majority of the pasture resources available. The scale and level of development required to achieve this is not understood.

Another key factor influencing the industry's capacity to sustainably achieve higher levels of pasture utilisation is the capacity to manage stocking rates within variable seasonal conditions. The cost price squeeze makes it difficult for producers to maintain a low long term 'safe' stocking rate year. To manage pastures within variable seasonal conditions producers need to understand the 'optimum' levels of pasture utilisation for the dominant pasture communities within their property. This is not clearly understood for this region.

PROJECT DETAILS

These issues and many additional issues are being investigated in a joint venture research project, at Pigeon Hole station in the VRD region of the NT. This project is a 5 year study (2002-2007) being conducted on a commercial scale (308 km²) with 3,000 to 5,400 cattle.

The \$5.4 million project has been developed and jointly funded by Heytesbury Beef and MLA through the Partners in Innovation Program. The agencies supporting the project and undertaking the research are the CSIRO, NT DNREA, NT DPIFM, and the University of Queensland. These agencies are also contributed significant resources to the project.

KEY AREAS OF RESEARCH

The project has five areas of research and development being carried out on the Pigeon Hole and Mt Sanford Stations.

1) Optimum levels of pasture utilisation.

Two grazing experiments have been established. The first at Mt Sanford comparing 6 levels of pasture utilisation (14%, 19%, 25%, 35%, 43% and 51%) over 5 years (2001-2005) in small experimental paddocks (6 km² to 12 km²) with 500 head of cattle. The second experiment is based at Pigeon Hole station comparing 5 levels of utilisation (15%, 20%, 25%, 30%, 35%) over 5 years (2003-2007) in semi-commercial paddocks (22 km²) with approximately 1,500 head of cattle.

2) Strategies to achieve uniform grazing distribution.

There are three components to this experiment.

- Impact of paddock size, grazing radius and number of cattle per watering point on grazing distribution.
- Impact of multiple watering points per paddock on grazing distribution. Can uniform grazing distribution can be achieved with multiple watering points in a paddock with a 2-3 km grazing radius?
- Strategies to reduce patch grazing within commercial paddocks.

3) Alternative grazing systems.

Four grazing systems are being compared, including set stocking, set utilisation, rotational grazing and cell grazing. These systems are being compared for their sustainable level of pasture utilisation, level of animal production and cost of production.

4) Conservation and biodiversity.

A range of experiments have been set up to investigate these issues. These include:

- Investigating the impact of 5 levels of pasture utilisation on biodiversity.
- Investigating if a representative level of biodiversity can be maintained with enclosures within the experimental paddock.
- Evaluate the impact of the size (0.4, 4, 40, 400 ha) and location of the enclosures.

5) Commercial evaluation

The cost of production of each of the treatments will be investigated as well as strategies to reduce the cost of production. Some of these include:

- The use of telemetry to reduce the cost of managing water points.
- The use of water medicators to reduce the cost of supplementation.
- Efficient paddock designs to reduce mustering costs.
- Efficient mustering techniques to reduce the mustering costs

The results of this project will be developed into best-bet strategies to more intensively and sustainably develop north Australian pastoral businesses.

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Ash, A., Corfield, J. and Ksiksi, T. (2001). The Ecograzed Project—developing guidelines to better manage grazing country. CSIRO, Townsville, 44pp.