

# final report

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## **Best practice manual for cattle production in the Top End of the Northern Territory**

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## **Abstract**

A cattle and land best practices manual for the Top End of the Northern Territory has been compiled and published. The idea for this manual came from a request by Top End producers, particularly those with areas of coastal floodplains on their properties, for written information on the management of cattle on the floodplains. This was expanded to include all Top End properties.

The intensification of management on most properties, including the sowing of larger areas of improved pastures, has seen a need for revised management practices such as rotational grazing, more weed control and prevention of burning.

This manual has endeavoured to find a balance between practical producer knowledge and experience and sound scientific advice. Reference resources are provided for readers requiring more detail on a particular subject.

## **Executive summary**

There was limited documented information available on managing cattle/pastures on Top End floodplains and upland pastures. This inspired the focus to collate information by the Department of Resources extension staff in consultation with local producers and Landcare groups and to produce a Best Practice Manual for the region. The information in the Top End best practice manual builds on and updates that information which was provided in the best practices manual produced for the Katherine region in 2009. The manual covers a broad range of issues specific to conducting a successful beef enterprise in the Top End of the Northern Territory.

Chapters covered include:

- Infrastructure and Station Development
- Land Management
- Cattle Breeding
- Cattle Management
- Cattle Nutrition
- Animal health
- Floodplains Production

This publication was compiled and edited by Arthur Cameron, DoR, with assistance from the other two members of the Steering committee, Phil Hausler, DoR and Tony Searle, Manager of Melaleuca Station.

This manual includes a chapter on the best management practices for properties with seasonally inundated floodplains in the Top End. There has previously been no printed information available which provides specific information on the management of these floodplains. The information on floodplain management is also relevant for some properties in the Katherine region.

The cattle producers of the Top End Region have supported collaborative research and extension projects over the years and have generously added their experience and collective knowledge on how to sustainably and productively manage a beef cattle enterprise in this rather unique beef producing region in northern Australia.

This work completes a comprehensive reference for cattle production systems for the top half of the NT and was endorsed by the Katherine Pastoral Industry Advisory Committee.

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## **1. Background**

This project is an extension of a similar project on best practice for the Katherine Region that was undertaken in collaboration with industry as a comprehensive source of easily accessible information for cattle producers in the Northern Territory. A prominent local producer pointed out that there is limited information available on managing cattle/pastures on Top End floodplains and upland pastures. This was the focus of information to be collated by Department of Resources extension staff in consultation with local producers and Landcare groups and subsequently published as a Best Practice Manual. This work completes a comprehensive reference for cattle production systems for the top half of the NT. Much of the information had already been collated for publication as a Best Practice reference for the Katherine Region.

## **2. Project objectives**

To produce an indexed print-ready reference book that provides Top End producers ready access to relevant research outcomes and best practice recommendations for cattle production and land management topics

## **3. Methodology**

The Top End or Darwin region is a small but diverse area of the Northern Territory producing feeder cattle predominantly for the live export market in South-East Asia. Production is based on improved and native pastures. The industry is described in more detail in the Darwin Pastoral Industry Survey 2004, available from DoR, Publications Section in Darwin.

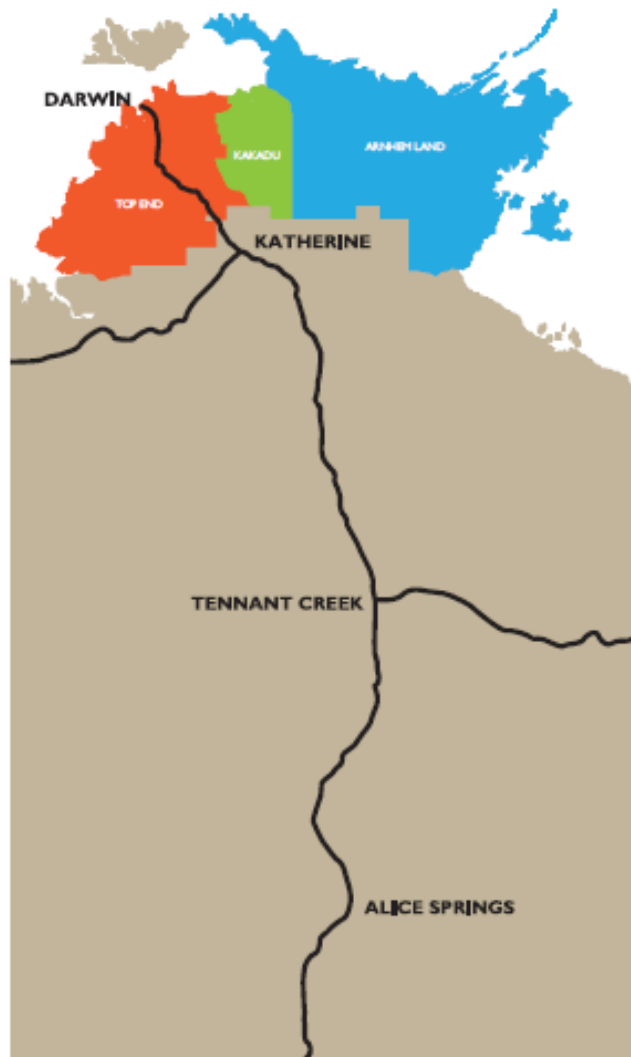
This manual is intended to cater for producers who are new to the region and want to understand the basics of operating in the Top End environment and production systems, right through to the experienced long-term producers who want to update their knowledge.

The base document for the Katherine Best Practice Manual was modified to take into account differences between the Top End and Katherine regions. In the process, authors and the editor updated all articles to include any relevant recent changes to management practices.

Meetings were held with producers of properties with floodplains, either in groups or individually, to obtain specific information on floodplain management. This information is presented as a Chapter of the Best practice manual.

The region (Figure 1) extends from Jindare Station near Pine Creek in the south to the coast in the North, and from Kakadu National Park in the East to the coast in the West.

Figure 1. Map of the Northern Territory showing the Top End Region



## 4. Results

The net benefit of the project will be the availability of relevant information for Top End cattle producers, and particularly for new managers of Top End cattle enterprises to increase the efficiency of their operations.

The main impacts will be on better risk and environmental management which will flow through to increase in supply and product quality.

The information will provide a benchmark of current best practice designed to improve the efficiency and productivity of cattle production in the Top End. Adoption is likely to be widespread among producer groups involved in participative extension activities organised by the Department of Resources (DoR).

The project will also create a foundation on which to identify potential areas for further improvement in current management practices and industry development.

The completed manual (Figure 2) has the same look and feel as the Katherine Best Practice manual.

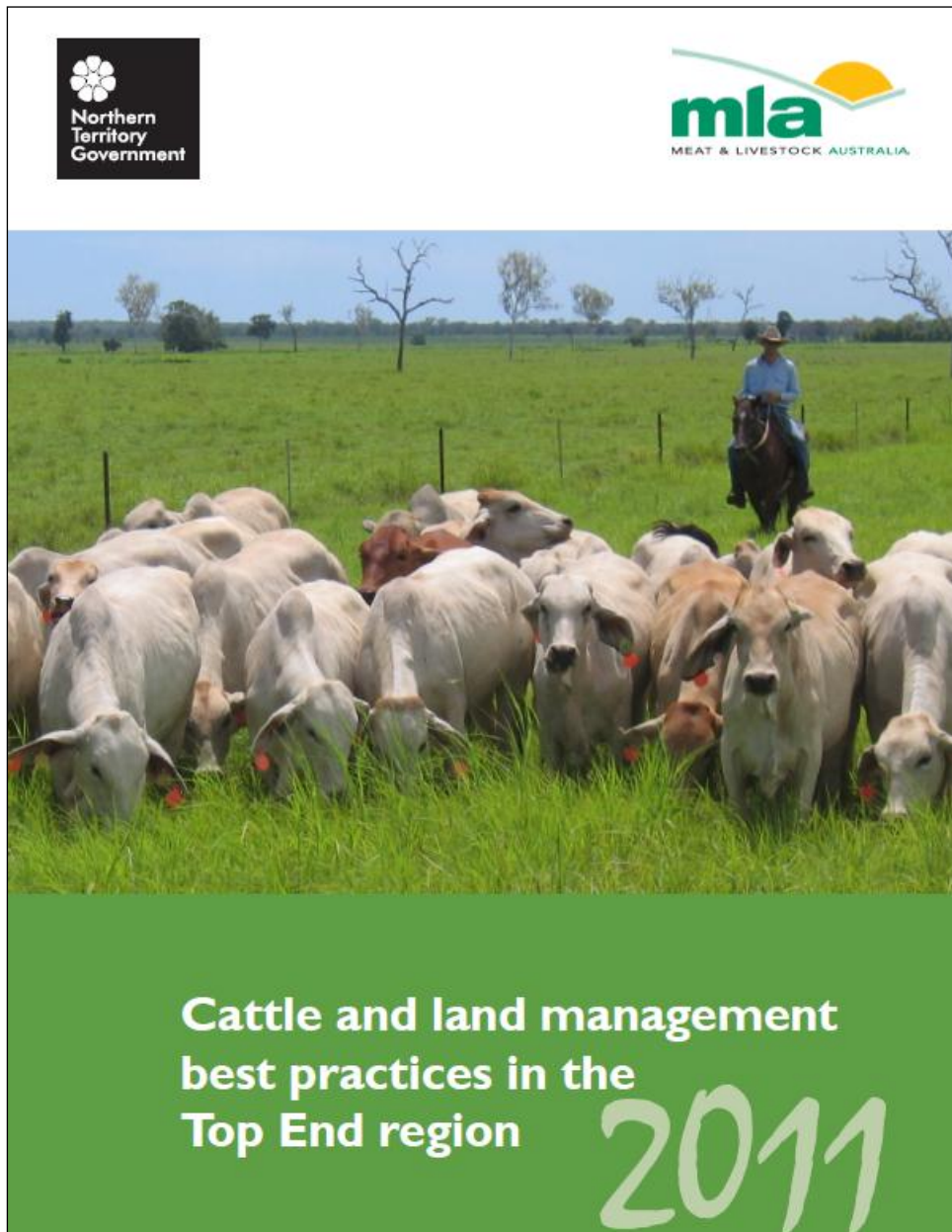


Figure 2: Front cover

The contents of the 8 chapters are listed below:-

Chapter One – Infrastructure and Station Development

1. Roads and Fences
2. Paddock Design
3. Cattle Yard Design
4. Cattle Dips
5. Dams (Evacuated Earth Tanks)
6. Geographic Information Systems (GIS)
7. GPS Data Collection
8. Telemetry

Chapter Two – Land Management

1. Native Pasture Land Condition
2. Native Pasture Carrying Capacity
3. Grazing Strategies
4. Distance to Water
5. Fire Management
6. Environmental Management System
7. Biodiversity Conservation
8. Native Pastures of the Top End
9. Rangeland Monitoring
10. Tree Clearing
11. Introduced Pastures for the Top End
12. Native Tree and Shrub Management
13. Hay: Producing and Buying
14. Weed Management
15. Cropping
16. Climate Change

Chapter Three – Cattle Breeding

1. Cattle Maturity Types
2. Crossbreeding
3. Mating Systems
4. Breeding Polled Cattle
5. Bull Selection
6. Bull Breeding Soundness Evaluation
7. Bull Percentages
8. Artificial Insemination
9. Mothering Up
10. Heifer Management
11. Culling Breeders



#### Chapter Four – Cattle Management

1. Animal Equivalents
2. Animal Welfare
3. Stock Handling
4. Condition Scoring
5. Production Parameters
6. Weaning
7. Poddy Calf Rearing
8. Branding
9. NLIS
10. Dehorning
11. Castrating Calves
12. Pregnancy Testing
13. Spaying
14. Hormonal Growth Promotants
15. Livestock Movements
16. Transporting Cattle – Pre-transport Management

#### Chapter Five – Cattle Nutrition

1. Supplementation
2. Water Consumption
3. Water Quality
4. Water Medication
5. Near Infrared Reflectance Spectroscopy
6. Management Through Dry periods

#### Chapter Six – Animal health

1. Botulism
2. Bovine Pestivirus
3. Buffalo Fly
4. Clostridial Diseases
5. Coccidiosis
6. Disease investigation
7. Dog Health
8. Emergency Animal Diseases
9. Heat Stress
10. Horse Health
11. Leptospirosis
12. Poisonous Plants
13. Stringhalt
14. Tail Rot
15. Tetanus
16. Three Day Sickness
17. Ticks
18. Tick Fever
19. Urea Poisoning
20. Vaccination
21. Vibriosis
22. Worms
23. Zoonoses

### Chapter Seven – Other

1. Buffalo
2. Live Cattle Export Industry
3. Macropods
4. Feral Animals (Large)
5. Selling Options
6. Wild Dog Control
7. Working Dogs

### Chapter Eight – Floodplains Production

1. Introduction
2. Floodplain Land Condition
3. Floodplain Carrying Capacity
4. Floodplain Grazing Strategies
5. Floodplain Native Pastures
6. Floodplain Improved Pastures
7. Floodplain Weed Management
8. Floodplain Climate Change
9. Floodplain Supplementation
10. Floodplain Water Quality
11. Floodplain Production
12. Floodplain Producer Perspectives

## **5. Discussion**

The project ran over time for a number of reasons. The Katherine Best Practice Manual, which was the template and base information for the Top End manual, was delayed by a late edit. There were also delays with getting updates and edits from the many diverse individual contributors to the manual.

The final draft of the Best practice manual has been produced. The Manual is expected to be published in January 2012.

A version of the BPM will be available on the Department of Resources web site. A CD version of the BPM will be produced to continue distribution after all hard back copies have been distributed.

## **6. Recommendations**

A copy of the manual should be distributed to all current cattle producers in the Top End of the Northern Territory, to those producers in the Katherine region with seasonally flooded areas, and to any new cattle producers.

## 7. Acknowledgements

This publication was compiled and edited by Arthur Cameron, DoR, with assistance from the other two members of the Steering committee, Phil Hausler, DoR and Tony Searle, Manager of Melaleuca Station.

This publication would not have been possible without the generous assistance, persistence and patience from the following:

- Meat and Livestock Australia for their funding support.
- Staff contributors from the Northern Territory Government Department of Resources, particularly the Katherine based staff who contributed to and produced the Katherine Best Practice manual, Jessica Mayes, formerly DPIFM, Trudi Oxley, Neil MacDonald and Renee Golding.
- The other Authors.
- Top End cattle producers, particularly those with floodplain properties who volunteered their time and knowledge.
- Staff from the Northern Territory Government DoR Marketing and Communications division.
- Staff from the Northern Territory Government DoR Primary Industry Publications Section.

We would like to thank the producers of the Top End Region for their support in collaborating with research and extension projects over the years. Through generously adding their experience we collectively hold a large body of knowledge about how to sustainably and productively manage a beef cattle enterprise in the region.

In particular, we gratefully acknowledge the diligence and tolerance of many contributors who are not DoR staff, busy people, and experts in their field who have significantly enhanced the knowledge of the department.