

2001/Q11



# **Producer Research Support**

Integrated Livestock Information Management Murweh Benchmarking Group

# The project

The Murweh Benchmarking Group examined the merits and pitfalls of using Radio Frequency (RF) eartags, incorporated with an electronic data management system, to manage livestock identification and optimise livestock production performance.

The project group tagged all steers on the property of one group member, to trial the process. This approach was intended to develop expertise that could be transferred to other group members once the trial was complete.

## **Objectives**

- Implement a system of automated information recording and management suitable for use in large herds across a wide range of conditions;
- 2. Measure and record on property performance relating to fertility, mature weight (breeders and bulls) and growth rates;
- 3. Obtain carcase feedback linked to animal identification in usable format;
- 4. Manage records with specialist software. Mine data recorded to improve management practices and increase enterprise gross margins;
- 5. Keep detailed costs of all processes and estimate potential cost benefits; and
- 6. Run a field day in 2003 to demonstrate the technology and outline potential gains.

## What was done

The trial was run on Valera Vale, a 23,000 hectare property running 3,000 cattle (including 1,000 breeders) in the Augathella district of South West Queensland. The Valera Vale herd was already identified with conventional numbered eartags and added the RF eartags to run a parallel identification system for the trial.

Cattle yards were modernised to facilitate RF tag and computer technology and equipped with Ruddweigh 600 data collector scales.

The station's existing DRCS phone system, didn't support internet connection, so a satellite enabled internet system was installed to facilitate electronic transfer of carcase data.

All animals were tagged and entered into CattlePlus, a computerised database. Calves were identified against their mothers at branding, and bulls were DNA tested and their information entered into the database.

A systematic protocol for carcase analysis was developed. The lead and tail of mobs (top and bottom ten percent of carcases) was DNA tested at slaughter to determine paternal parentage. Information on parentage, live weight, fertility, and carcase performance was recorded in the database.



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RF ear tags were shown to be unsuitable for a National Scheme because they are unreliable, can be easily removed and replaced and are not tamper proof.

As an alternate method of identifying cattle, RF boluses warrant further investigation.

# **Contact details**

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# Key points

- A system of automated livestock identification using Radio Frequency (RF) technology was successfully implemented.
- RF ear tags are unsuitable for a National Scheme because they are unreliable, can be easily removed and replaced and are not tamper proof.
- RF boluses were successful, but there is significant resistance to their use by processors because of difficulties with bolus recovery post-slaughter.

### **Producer Research Support**

MLA Producer Research Support offers support funding of up to \$15,000 over three years for groups of producers keen to be active in on-farm research and demonstration trials.

These activities include:

- Producer Initiated Research and Development
- More Beef from Pastures demonstration trials
- Prime Time Wean More Lambs demonstration trials
- Sustainable and productive grazing grants.

Contact Stephen Feighan - MLA Project Manager, Producer Delivery and Adoption.

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### What happened? RF Identification

Although the RF tags were installed on all steers in the trial mob, the application of the technology was not as successful as anticipated. The equipment and system were not reliable, which lead to misinformation and conflicting information.

RF ear tags were found to be most effective for cattle slaughtered at less than three years, and RF boluses on longer term cattle. The RF ear tags were found to be generally unreliable, could be easily removed and replaced and weren't tamper proof. The high level of tag loss was unacceptable.

The implementation of a mandatory National Livestock Identification System (NLIS) would be impractical with the technology at its current level of development and ease of use. A voluntary NLIS would not deliver enough of the benefits of a mandatory system for it to be viable.

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#### **Carcase Information**

Electronic kill sheet feedback was a major improvement on the previous paper based system. Compatibility of files is an issue that needs to be addressed, with several different (and often incompatible) file types being used to transfer kill sheet data from processors back to properties.

#### **Database Management**

The use of commercially available computer software fulfils producers' data management requirements. Software choice depends on balancing complexity of analysis against ease of use.

#### **DNA Parentage Analysis**

DNA parentage analysis was extremely successful and interesting, although expensive. DNA samples were easily obtained at branding. A simple system of storing, filing and retrieving data that could be linked with the RF ID of stock was developed.

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#### MLA also recommends BeefPlan

BeefPlan is a non-traditional approach to learning. Groups of like-minded beef producers, work together as a management team to focus on property management. Importantly the learning agenda is set and controlled by the group.

Contact Steve Banney - Project Coordinator Tel (07) 4093 9284 or sdb@austarnet.com.au

#### **EDGEnetwork**

EDGEnetwork offers practical field-based workshops to improve productivity and profitability for the long-term.

Workshops cover breeding, nutrition, grazing management, marketing and selling.

Call MLA on 1800 993 343 or www.edgenetwork.com.au

#### **Meat and Livestock Australia**

Level 1, 165 Walker Street North Sydney NSW 2060 Tel (02) 9463 9333 Fax (02) 9463 9393 Free Phone 1800 023 100 (Australia only) www.mla.com.au

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#### **Discussion**

The unreliability of the system and equipment was a major issue. Information sourced from manufacturers was ad hoc and confusing to those wishing to implement such a system. There is definitely a need for more transparent standards and a central agency for information on automated livestock identification and management systems.

Quantitative data on the impact of the technology on gross margins was not able to be determined because of the drought and the short timeframe of the trial. Improved mob and genetic management decisions are anticipated to impact positively on gross margin.

Group members and the wider community were very enthusiastic about the implementation of an automated livestock identification and management system. It is not necessary to be part of the NLIS to achieve the benefits demonstrated, but a fully developed and successfully implemented mechanism for national livestock identification would be highly beneficial to all producers.