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Getting more from the National Livestock Identification Scheme (NLIS)

Producer Demonstration Site
Charters Towers, North Queensland

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Abstract

A PDS established near Charters Towers in north Queensland investigated the benefits of utilising NLIS captured data to measure herd performance and ultimately support better management decisions. The group consisted of six businesses across eleven properties with the principle demonstration site for activities on Thalanga Station. At Thalanga the performance of the breeding herd was monitored throughout the PDS. NLIS supported data enabled evaluation of different genotypes at weaning and a measure of reproductive performance of age cohorts in the breeding herd. Compared to northern industry standards very high wet cow conceptions were identified during their first lactation (83%), but low conceptions in cows during their second lactation (46%). At Wambiana Station, another group member used NLIS captured data to identify individual growth rates to support culling decisions and identify superior performing animals for selection in a nucleus bull breeding herd. The group also investigated tools and equipment for data collection as well as available software options. The PDS highlighted issues of equipment reliability and the need for backup systems if data can only be collected at critical times such as at pregnancy diagnosis. Tag retention over the lifespan of breeding animals was seen as a major constraint to successfully adopting NLIS as a long term monitoring tool. During the PDS all members of the group commenced using NLIS as a management tool within their businesses. All agreed that NLIS offered an efficient and economic system to support the collection and collation of data.

Executive summary

Can NLIS be used to measure herd performance and make my business more efficient? This was question posed by the Charters Towers Value in Beef group as they implemented business action plans in a Department of Employment Economic Development and Innovation (DEEDI) and Beef CRC project.

NLIS technology first appeared in Australia in 1999 to support access to the European Union (EU). Over time State and Territories adopted NLIS as the cornerstone of their trace back systems for biosecurity and market access purposes. In 2005 it became compulsory in Queensland for all animals leaving their property of origin to be identified with a NLIS approved device. At an average cost of $3.50 per tag producers have made a considerable investment in the system. The hypothesis was that this investment could also be used to record other data about animal performance other than its property of origin.

This Producer Demonstration Site (PDS) aimed to demonstrate the management benefits of NLIS in an integrated beef business. It also proposed to increase the capacity of individual group members to use NLIS associated equipment including hardware and software.

The principal site for the project was Thalanga, a breeding property 55 kilometres west of Charters Towers. The entire Thalanga herd was tagged and data collected on individual animal performance.

The findings demonstrated the improved efficiencies NLIS offered in crush side identification of animals for performance recording. Historically fire brands, numbered ear tags and notebooks have been the tools to do this. More recently laptops and spreadsheets have been introduced into yards. The latest NLIS technology automatically links all the hardware of NLIS tag, readers and scales improving the efficiency and accuracy of captured data.

On the demonstration property the use of NLIS tags for lifetime identification helped identify lower conceptions in females on their second lactation. Without individual animal identification this information would have been a lot more difficult to establish. It is widely accepted by industry that the first calf heifer is hard to get back in calf but on the demonstration property this was being addressed by management inputs. The third calf now proved to be the challenge and information obtained using the NLIS tags highlighted this to the manager.

During the PDS there was continued uptake of the technology by all members of the group. This identified that as on property systems intensify and more data is being collected there is a corresponding increase in the reliance on technology which at times can fail. When this occurs the outcome can range from slight inconvenience to loss of collected data or the inability to collect further data at that time. Some planning and thought is therefore warranted when commencing monitoring using electronic devices. One alternative is to have back-up options of critical pieces of hardware, namely NLIS tag readers and scale leads and load bars. There are costs associated with this option but it does give one the ability to continue to collect data if critical hardware fails. Preparedness for breakages and equipment failure is essential.

From a business perspective accurate data collection is paramount to decision making. In the Thalanga herd the data collected allowed a more accurate assessment of herd gross margins. The NLIS technology supported the gross margin analysis of herd performance and helped identify that the profit centre is the male portion of the herd. The caveat was that as breeder performance improved the margins between the two got closer. As this gap between breeders and steers narrows it opens up the possibility of removing lower

performing steers to run more higher performing breeders. The key is to identify the superior and non performing animals and the collection of individual animal performance data enables this to happen.

A critical issue for the wider adoption by industry is the longevity of the NLIS tag. This is especially the case in the breeder herd when wanting to collect lifetime data. On average a female may stay in the herd for around ten years. Industry needs to be confident that the effective lifespan of a correctly attached NLIS tag will effectively match this period. If a tag fails to read or is lost then the accompanying data is also lost. In a commercial situation the option of a secondary identification system becomes too costly and is not warranted if the majority of tags stay in the majority of time. In the PDS tag retention was good (99%) throughout but a manufacturing fault caused high tag loses (6%) in a year cohort. The group overwhelmingly believe that tag failures and the inconvenience associated with this is a major barrier to adoption by industry of NLIS as a management tool.

The PDS demonstrated that all beef producers can adopt a form of herd recording technology should they wish. Recent discussions around the low performance of northern breeding herds highlights there is opportunity for producers to focus on animal performance within this part of their business. NLIS is not the only option if one wants to record individual animal performance but it is potentially the most efficient option available when dealing with extensive herds.

"I don't really know what questions I will have in ten years time but if I have this information I may have some answers", Rob Rebgetz, Thalanga.

Contents

1 Background

Globally, Australian beef businesses are considered highly efficient. Declining terms of trade and rising input prices continue to put pressure on business returns and drive the search for further efficiencies. This requires, at the outset, the identification of inefficiencies within the business. The National Livestock Identification Scheme (NLIS) was introduced 1999 as a biosecurity and market access instrument. In 2005 in Queensland it became compulsory for all cattle moving off their property of birth to be identified with a NLIS device. Could NLIS be used to support beef businesses gain further efficiencies?

Measuring productivity performance is critical to the long term success of any business. Beef businesses are focussed on producing beef therefore the performance of the herd is crucial to the profitability of the business. The challenge is to develop efficient systems within the business to allow the capture and analysis of relevant information.

This Producer Demonstration Site (PDS) had its conception in the north region Value in Beef (VIB) project. The broad focus of the VIB project was to facilitate and support groups of beef producers in the development of systems and activities to grow profitable beef supply chains. Support funding for VIB was provided by the Beef CRC Beef Profit Partnerships project and Department of Employment Economic Development and Innovation (DEEDI).

VIB project activities included implementation of business action plans including monitoring, analysis and review. The group wished to investigate options to monitor activities they undertook within their herds and provide detailed data on individual animal performance. A logical way to progress this was a demonstration using NLIS technologies.

Group members Rob and Lisa Rebgetz from Thalanga Station west of Charters Towers, commenced recording individual animal performance in their breeder herd. This herd subsequently become the focus of the PDS. The group followed the highs and lows of data collection and analysis and how the information was integrated into the Thalanga management system. All the while other members of the group were commencing their own systems of data collection using NLIS tags as the basis.

2 Project objectives

The PDS aimed to quantify the potential management benefits of using NLIS and associated technologies to beef producers in terms of enterprise efficiency and profitability.

The specific objectives of the PDS were:

1. Increased capacity of individual group members to effectively utilise NLIS technology within their business.
2. Demonstrated the application of NLIS to record and retrieve individual animal and/or herd production data quickly and accurately at appropriate intervals.
3. Demonstrated the management and financial benefits of analysing recorded data to improve business management decisions by defining key production parameters (profit drivers) for each demonstration property.
4. Demonstrated methods/software for electronically recording production information.

5. Monitor NLIS tag retention and read rates on demonstration property and provide supporting evidence for audit compliance obligations under the Livestock Production Assurance (LPA) scheme.

3 Methodology

3.1 Group processes

The group processes surrounding the PDS were based on the Beef CRC Beef Profit Partnerships group empowerment and facilitation model. Group participants were supported to move through the continuous improvement and innovation (CI&I) cycle (Diagram 1.) The process encouraged and supported participants to assess their own situation, identify key drivers of business growth and take action for rapid improvement. Measuring, and monitoring actions taken and reporting back to other group members was a key part of the CI&I cycle. Increaseing the capacity of participants to use tools and technologies supporting improvement and innovation lead the group to investigate NLIS technologies.

Diagram 1. Continuous Improvement and Innovation cycle

3.2 Site selection

Thalanga was chosen as the key site for the project due to the Rebgetz family's willingness to commit to undertake the work associated with the demonstration project including hosting a field day. The Rebgetz family have a long history of supporting beef research, development and extension in the Charters Towers district and have hosted a number of beef research projects.

Thalanga is located 55 kilometres west of Charters Towers on the Flinders Highway. The property is predominantly silver-leaf ironbark forest country with acutely phosphorous deficient yellow earths. Much of the property has been over sown with improved pasture species, mainly Sabi grass *(Urochloa mosambicensis) and* Seca Stylo *(Stylosanthes scabra)*. Thalanga runs around 1000 breeders plus progeny taken through to two to three year old male turnoff as trade ox. Average annual rainfall is around 600mm.

3.3 Identification of key profit drivers

The purpose of enterprise analysis in the first instance is to provide a basis for demonstrating progress of "practice change" components of the project. More importantly, from the producers' standpoint, enterprise analysis provides identification of key profit drivers and a starting point in the search for profit-improving changes in the enterprise. Enterprise analysis provides the following possibilities:

1. An outright assessment, based on other analyses or extension officer experience, of an enterprise's performance for a district or land type.

2. Identification of profit centres within the herd. For northern herds this means comparing the Gross Margin/Adult Equivalent (GM/AE) from breeders producing weaner steers versus GM/AE from growing out the weaner steers into something bigger. The object of this analysis is to determine best male turnoff age on the existing herd production parameters.

3. Comparison of existing GM/AE for breeders and steers with GM/AE under changed husbandry, nutritional, genetic or marketing regimes. This contributes to improved decision making, and to producers' willingness to adopt change.

The Enterprise analysis of current management and current gross margins (individual businesses) was carried out utilising the Breedcow Dynama herd budgeting package supported by Bill Holmes, DEEDI Agricultural Economist, Townsville.

3.4 Selection of hardware and software

A training day was organised with providers of weighing and electronic identification systems hardware to allow the group to take a 'come and try' approach. There are limited options available with two major commercial suppliers dominating the Australian market, namely Gallagher and Tru-Test. Within each supplier's product list there are a range of options from a basic weight collection unit to advanced electronic identification compatible systems. There is a larger commercial range of NLIS tag readers or scanners.

In regard to software there is a large choice of available programs. This prohibited any chance of providing the group with opportunity to test all options. Instead the group was encouraged to investigate individually but share with the group any outcomes of their investigations. Types of software investigated range from comprehensive herd management programs that link with industry tools such as Breedplan and included Herd Magic and Stockbook. The other option was programs provided with purchased hardware that enable downloading and editing of data off scale indicators or NLIS readers. One group member is now actively using Herd Magic to manage a bull breeding herd. In the case of other group members it came down to choosing their preferred weighing system and then accepting the software that came with it.

A commercial comparison of every product available including its suitability for each situation was not within the scope of this project. The selection of hardware was a personal choice of the producers involved and the project makes no recommendations on individual products.

3.5 Data collection

At the commencement of the PDS in 2008 the entire Thalanga breeding herd was processed and allocated an NLIS tag providing individual animal identification. This occurred throughout the year as each mob of breeders was processed during routine husbandry operations. All other animals now enter the system at weaning. NLIS tag selection was at the discretion of the owner and was principally driven by performance, price and ease of application.

Data collection on Thalanga was done using Gallagher Animal Systems products including a SmartTSi indicator, a HR3 handheld SmartReader and loadbars. A Bluetooth connection was used between the reader and the SmartTSi indicator to reduce leads and increase ease of use for operator.

As animals were processed during routine husbandry operations pertinent data relating to each animal was collected. Data collected included:

- Life data – Breed, sex, colour, date of birth (year), weaning round (1st, 2nd or 3rd)
- Production data – weight, pregnancy status, lactation status
- Activities – vaccinations, HGPs, parasite treatments

Life data is only recorded once, when the animal is first processed onto the system, and then stays linked to that particular animal via the NLIS device. The collection of production and activity information occurs at any time an animal is processed through the yards.

The decision of what data to collect was left up to the producer. The caveat was that it needed to be relevant to measuring performance of the Thalanga breeder herd. The cost to collect and analyse the data was also considered and the time factor as data collection needed to be able to fit in with other routine yard activities without causing undue delays.

3.6 Data analysis

Analysis of data was conducted using the software package supplied with the SmartTSi scale indicator called Animal Performance Systems (APS) Office. APS office can be run on either the SmartTSi or on a personal laptop or computer. As the project was to demonstrate the application of NLIS technology to a normal beef business it was important that any information collected could be easily analysed by a producer using commercially available products. It was not a focus of the project to collect a lot of data then run it through a rigorous scientific analysis. APS office gave the producer the ability to perform the following functions:

- View, edit or record animal data
- View weight gain graphs, trait or activity graphs
- Filter to sort on selected traits, activities
- Import and export data
- Create draft lists
- Prepare advanced reports

APS office provided the ability to sort and view data in the yards crush side as well as back in the office where more advanced data management options were available on the program. From the perspective of the needs at Thalanga APS office functions list were suitable for analyse of collected data.

A Microsoft Access database was created by a University of Queensland Science student to manage animal performance data associated with a project on heifer weaning weights influence on lifetime fertility. This project was not part of the PDS and the data analysis, even though very relevant to the business, would not be a normal activity for most producers. The project was able to occur as a direct result of the PDS recording individual animal performance information and therefore will be discussed in this report.

4 Results and discussion

4.1 Demonstrate the application of NLIS on property

Demonstrating NLIS application on property was the most critical part of the project and of most interest to the participants. They wanted to see how it could be done, what were the benefits and can it applied at home to their own business.

As Thalanga was the principle site, all the discussion regarding demonstration will relate to this site. Other properties did participate in varying levels but for efficiencies it was agreed that Thalanga would collect and provide all of the data for demonstration purposes.

4.1.1 Hardware

Reliability of hardware is the most critical aspect when it comes to utilising NLIS on property. Thalanga used the Gallagher SmartTSi. This system has the capacity to allow detailed analysis of animal records crush side. It is a highly advanced piece of equipment but a fault in the hardware resulted in it failing twice and losing data. The company investigated, found it to be faulty and replaced it. Since then the system has been working perfectly. One learning that did come from this event was that the TSi could be plugged into the internet and the manufacturer could interrogate the database to try find out why it was failing. It also allowed them to recover some of the data which was thought to be lost. Considering the remoteness of some locations where this equipment will be used this feature is of some benefit.

The reality is that when you incorporate systems you bring another piece of technology into an environment that is generally not well suited to electronic equipment. We also had equipment failures in scale leads and an animal damaged the NLIS reader. None of this is a rare event when working with unpredictable animals in an environment where they are not comfortable.

It is critical to acknowledge that if you are collecting data you need to anticipate that at times equipment will fail, and often the skills needed to make repairs are not readily available locally. To manage this at Thalanga, the owner has some backup options including spare scale loadbars, leads and a NLIS reader. Checking equipment the day before could have also saved some problems.

There is also certain aspects of the equipment that most of the time are very useful but at certain times will cause inconvenience. For example the automatic linking of an animal weight to the next tag scanned is useful except when you get three animals in the crush and it associates total weight to one NLIS device. It can be fixed but it takes time and a little patience, a virtue that is often lacking at the end of a long, hot, dusty day in the stockyards.

If a producer is going to start collecting data to assist in management decisions, the selection of hardware to suit their needs and abilities can make or break the process. Purchasing a top of the range system for basic data collection such as live weights may add a level of complexity where it does not need to be. Alternatively purchasing something that is not up to the task will also lead to a level of frustration. Identifying the key performance indicators and the measures required will help identify what hardware is necessary.

The experience across the group was that most systems appear to do most of the things they wanted to do. A range of hardware was used across the group and none of it could be rated or ranked equally taking into account reliability, usability and operator skills. Something that failed on one property could be the most reliable piece of hardware on

another. Detailed investigations where not conducted on each failure but operator skills appears to be a critical aspect.

Hardware costs on average across the group ranged from $5-10,000 to set up an appropriate integrated animal identification system. This included the purchase of load bars, scale indicator and NLIS reader. The biggest driver of cost was the range of applications the hardware could perform. Simple systems were much cheaper. All suppliers offered a level of training and phone support with their product. The experience at Thalanga was that the level of support from the hardware supplier was very good with both site visits and phone support.

4.1.2 Processing costs

At the commencement of the project it was decided that the demonstration on property would replicate what could be done by most producers on an average beef property. The caveat was that the owner and his staff had to be able to collect and analyse the data themselves. They did not want to rely on a third party to do what would be a critical part of their management system. The data collected also had to be relevant to their business goals. Owner analysis also kept the data relevant and helped focus the management of the data to ensure it was having a direct impact on business decisions.

The collection of production and activity information occurred at any time animals were processed through the yards. The owner estimates that it cost less than one dollar per head per year to record the necessary information on each individual animal. Most of this cost, apart from the hardware, is labour to have another person crush side dedicated to entering data. An increase in the animal numbers processed can correspondingly decrease costs per head. This estimate includes the extra costs during start up as life data needs to be captured when cattle are initially processed into the system. Once this has occurred it will only be required for each group of weaners that enter the system. Much of the ongoing production and activity data can be captured automatically with default settings and auto weighing which significantly reduces labour, time and cost involved.

Experience at Thalanga demonstrated that all the necessary data could be collected in the time it took to do other husbandry operations such as implant a HGP, vaccinate and tag. Therefore collecting the data did not impose time restrictions generally but there was the extra labour cost.

4.1.3 Tag retention and read rates

NLIS tag retention was very high for much of the project, 99 percent. However tag retention did become a problem towards the end of the project with high losses (6 percent) in one cohort of breeders. Investigations identified that it was a result of the failure of plastic surrounding the male pin. The plastic became brittle and broke off, effectively leaving just the pin hanging in the ear which eventually was knocked or rubbed out. The supplier of the particular tag advised that it was the result of a manufacturing problem which has been rectified. The high tag loss was in the number 7 cows. The concern was that these tags have been in for a relatively short period (3 years) and given the nature of the problem its assumed similar losses could continue in this group into the future. This type of situation does not appear to be the only case of manufacturing faults leading to tag losses. From the perspective of utilising NLIS on property any tag loss can have significant issue for data collection. A logical solution is to tag or identify animals with a form of secondary ID so that lifetime data cannot be lost. In the case of the Thalanga herd it was a balancing act between the risk of data loss and the cost and time associated with a secondary ID option. Given that overall NLIS tag retention was good it was not seen as viable to include a secondary ID in a commercial herd.

Table 1. NLIS tag loss No. 7 Females by year

Tag Loss No. 7 Females			
2007	2008	2009	2010
Tagged	1%	2%	6%

If the tag was in the ear it generally read. Thicker ear cartilage in crossbred cattle can cause a problem if the tag is placed too far into the ear. If the tag when inserted has insufficient room between the male and female parts it prevents circulation resulting in necrosis of the ear tissue and eventual loss of the NLIS tag and part of the ear. Inserting the tag near the middle of the ear (as recommended) is generally sufficient to prevent this problem. An awareness of this potential problem by the operator at time of insertion can monitor and avoid the situation.

It appears tag failures on Thalanga was linked to manufacturing faults rather than operator application. Some of the manufacturing failures have been well documented over the years with suppliers publicly initiating tag recalls or replacing faulty tags.

The other question that has been raised is what is an effective life span of a NLIS tag? As adoption of NLIS as a management tool increases there are large numbers of breeders that now have tags in their ears for periods exceeding five years and could be expected to be in the system for up to another 5 years.

Effective use of NLIS as a management tool on property requires animals to maintain their individual lifetime identification. The whole system hangs of this critical tag and producers need to be confident it is reliable enough to warrant the extra cost with recording data.

4.2 Demonstration of NLIS to support management decisions

4.2.1 Weaning weights and genotype

As weaners are processed at Thalanga information is collected on genotype, sex, weight, weaning round (weaning occurs over three rounds) and other husbandry practices. During the PDS Thalanga was moving into a rotational cross breeding program and allocating genotype allowed assessment of the different genotypes at weaning.

At commencement of the PDS first round weaners (May) were on average 10 kg or 5% heavier than third round (August) weaners (197 kg v 187 kg). There was a difference of up to 6% between genotypes with Belmont Red crosses averaged 199 kg compared to straight Brahmans average of 188 kg (Table 2). The weighing protocol for these weaners was that they are weighed and processed 3 weeks after weaning. Monitoring of the 2010 weaner cohort indicated that the average difference between the first and last round was 16 kg or 8%.

Information from weaning data captured using NLIS, confirmed the expected outcomes of the crossbreeding program. The value to ongoing management decisions was that the owner knew how much better the crossbred animals were. The same can be said for the earlier weaned animals. There was an assumption that they would be better animals due to having the better part of the grazing season. But the figures available gave management the option to see how much better they were. This continued to keep management focussed on getting as many breeders as possible to calve early in the season.

Table 2. Thalanga weaning weights and genotype

Round 1 weaners May							
	Total			Steers		Heifers	
	Number	Percent	Avg Weight	No. Head	Avg Weight	No. Head	Avg Weight
	325		197	157	203	166	193
Breed							
BBR Brahman/Belmont Red	15	5%	205	10	201	5	213
SAB Senagus/Brahman	33	10%	208	17	205	16	211
BRA Brahman	173	53%	193	81	202	92	186
BRX Brahman X	48	15%	198	24	195	24	201
CHB Charbray	24	7%	205	7	228	17	197
DRM Droughtmaster	5	2%	187	2	200	3	179
NUG Senagus/Belmont Red	25	8%	202	16	206	9	194

Round 2 weaners June							
	Total			Steers		Heifers	
	Number	Percent	Avg Weight	No. Head	Avg Weight	No. Head	Avg Weight
	296		191	154	194	141	187
Breed							
BBR Brahman/Belmont Red	31	10%	195	8	200	23	194
SAB Senagus/Brahman	42	14%	192	22	198	20	187
BRA Brahman	187	63%	189	104	192	83	186
BRX Brahman X	22	7%	195	13	200	9	188
CHB Charbray	13	4%	194	7	198	6	189
DRM Droughtmaster							
NUG Senagus/Belmont Red							

Round 3 weaners August							
	Total			Steers		Heifers	
	Number	Percent	Avg Weight	No. Head	Avg Weight	No. Head	Avg Weight
	221		187	115	196	124	179
Breed							
BBR Brahman/Belmont Red	32	14%	197	11	210	21	190
SAB Senagus/Brahman	5	2%	191	3	202	2	175
BRA Brahman	138	62%	182	65	190	94	174
BRX Brahman X	23	10%	191	14	194	9	185
CHB Charbray	8	4%	190	4	197	4	182
NUG Senagus/Belmont Red	15	7%	195	7	209	8	183

Group	weight	Number	Percent
2008 Avg weaning wgt	195	860	

Steers	202	427	
Heifers	189	433	
Avg weaning weight by genotype			
BBR Brahman/Belmont Red	199	78	9%
SAB Senagus/Brahman	197	80	10%
BRA Brahman	188	498	59%
BRX Brahman X	195	93	11%
CHB Charbray	196	45	5%
DRM Droughtmaster	187	5	1%
NUG Senagus/Belmont	199	40	5%

4.2.2 Weaning weights influence on fertility

Towards the end of the project, Kerry Goodwin, a University of Queensland student undertook a practical placement at Thalanga. During this placement Kerry completed a project on the effects of heifer weaning month and weight on life reproduction.

Using the information collected during the project, reproductive performance of heifers weaned in 2006, 2007 and 2008 was analysed in an access database. Kerry presented results of her work at Thalanga during the NLIS field day.

Kerry concluded that heifers with weaning weights above 190 kgs are more fertile in the future. Heifers from earlier weaning rounds have a higher fertility rate due to greater period of time to reach reproductive age before mating. Weaning weight also had an effect on the fertility of the female later in her reproductive life. Heifers from the late third round that were above 190 kg had more chance of being pregnant than their lighter cohorts and also a higher percent were greater than five months pregnant. Lactation had an influence on the percentage of empty cows on their third mating whereas condition at pregnancy diagnosis had minimal influence.

From her project Kerry's recommendations for the Thalanga herd were to select heifers from the first two weaning rounds and, if possible, over 190 kg weaning weight.

The information from Kerry's project was not new research to industry but it did demonstrate how the data from Thalanga could be used to draw conclusions and make recommendations that are directly applicable to Thalanga.

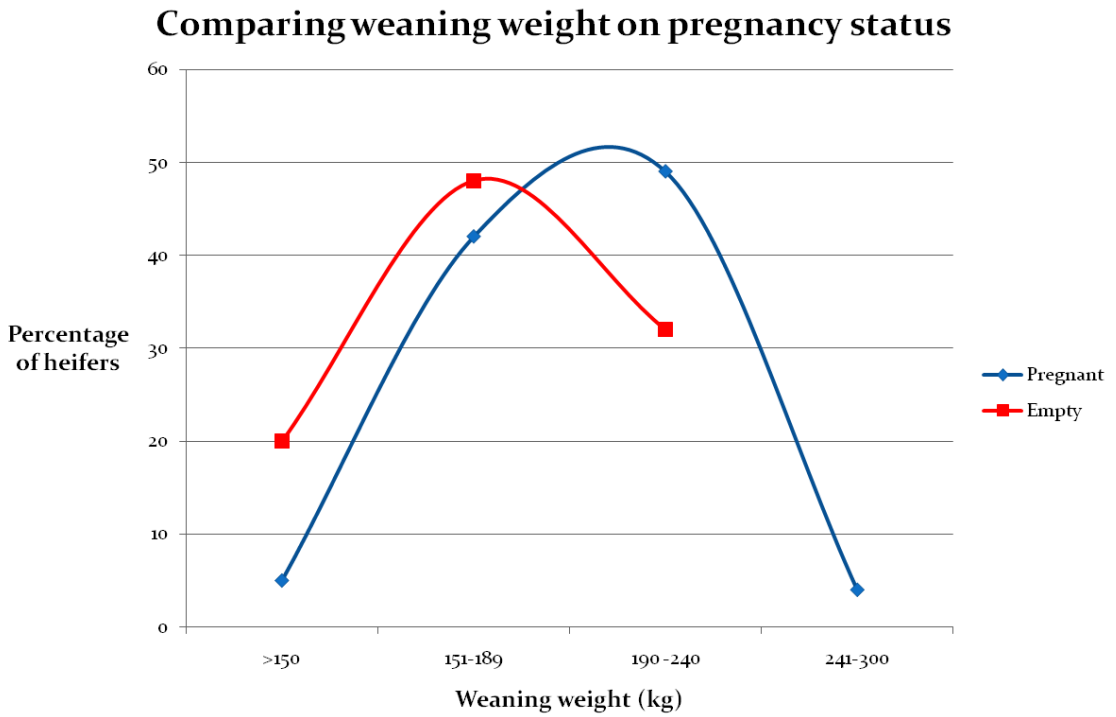

Figure 1. Affect of weaning weight on pregnancy status

4.2.3 Breeder performance

As the breeder herd was integrated into the system during 2008/09 further information become available on their performance. The Thalanga herd is mated from January to June with all non pregnant females culled at pregnancy diagnosis in September. The herd is moving towards a stabilised composite herd based on Brahman, Senegus and Belmont Red genetics as the owner believes this will offer better growth and fertility than the straight breed Brahman herd.

One objective was to measure the number of breeders in the herd that conceived while lactating (wet). Due to weaning prior to foetal ageing, the best measure of wet cow conception was to capture those breeders that had a pregnancy status of greater than four months when tested in August. This means they were pregnant at time of first round of weaning in May or pre round one (R1). In the main breeding herd, shown in Table 3, 71% of breeders were conceiving while wet. It also highlights a very high conception rate in females on their first lactation, second pregnancy (87% No. 5s) but this falls away considerably on their second lactation/third pregnancy (52% No. 4s).

Table 3. 2008 Thalanga foetal ageing - August 2008

Age Group	Total	Conceptions (No. & %)	Pre R1 (No. & %)	Avg wt at foetal age (kg)
No 4s 3rd pregnancy	185	96/52%	85/46%	386
No 5s 2nd pregnancy	429	372/87%	357/83%	414
Breeders No 3 +	460	377/82%	325/71%	434

During 2009 we revisited the No. 5s to see if they followed the same pattern as the No. 4s which saw a fall in conceptions during their second lactation. Results indicate the No. 5s have followed this same trend with a total of 225 still in the herd and of these 131 or 58% were pregnant. No. 6 females which were on their first lactation had a conception rate of 89%. At Thalanga heifers are mated early for three months (Nov-Jan) to calve before the main breeding herd. At their second mating they are mated with the main breeder herd for six months (Jan-June). This extended period between mating would assist in increased conceptions. The Thalanga herd has been selection for fertility for over ten years and this may also be influencing re-conceptions in heifers. This should raise questions across northern herds where females enter the main breeding herd once they achieve their second pregnancy. How these animals perform as individuals past that point is often not captured other than their contribution within the sum of the total herd. Better information on their performance will enhance opportunities to implement management strategies. NLIS as a herd management tool can offer that opportunity.

The owner also compared live weights and conceptions within birth year cohorts in 2009. Of the No.5 females that weighed greater than 400 kg at pregnancy diagnosis there was a total of 141 head of which 103 or 73 percent were pregnant. Of the No. 5 females weighing less than 400 kg at pregnancy diagnosis there was a total of 84 of which 28 head or 33 percent were pregnant. Within the No. 6 females those above 440 kg (125) had 100 percent conceptions, 400 – 440 kg (116) 96 percent and less than 400 kg (112) 69 percent. Data on these animals as weaners is not available but as the more recent age groups come through the system the owner will have whole of life data on these animals at an individual level. This will allow assessment of earlier life impacts, for example; below average weight at weaning or from later weaning rounds? Could they be indentified earlier and managed differently to increase conceptions? If it is something that can be identified then it can be managed.

As well as weights and pregnancy status, information was also collected on breed within the No. 6 cohort. It highlighted that of the 11percent (38) that were not pregnant, 87 percent (33) of them were Brahman and the remainder crossbreeds. An analysis of weight at foetal ageing in the No. 6 females record an average weight among the crossbreed heifers of 451 kg compared to 417 kg for straight Brahmans.

The impact of liveweight on conceptions for breeders that calved in the previous year was also collected and is shown in Table 4 and Figure 2.

Table 4. 2009 Pregnancy results main breeding herd

Breeders			
Liveweight (kg) at pregnancy diagnosis	Number	Number pregnant	Percent
480 +	63	55	87%
430 - 479	131	104	79%
380 - 429	166	117	70%
330 - 379	104	39	37%
0 - 329	18	4	22%
Total	**482**	**319**	**66%**

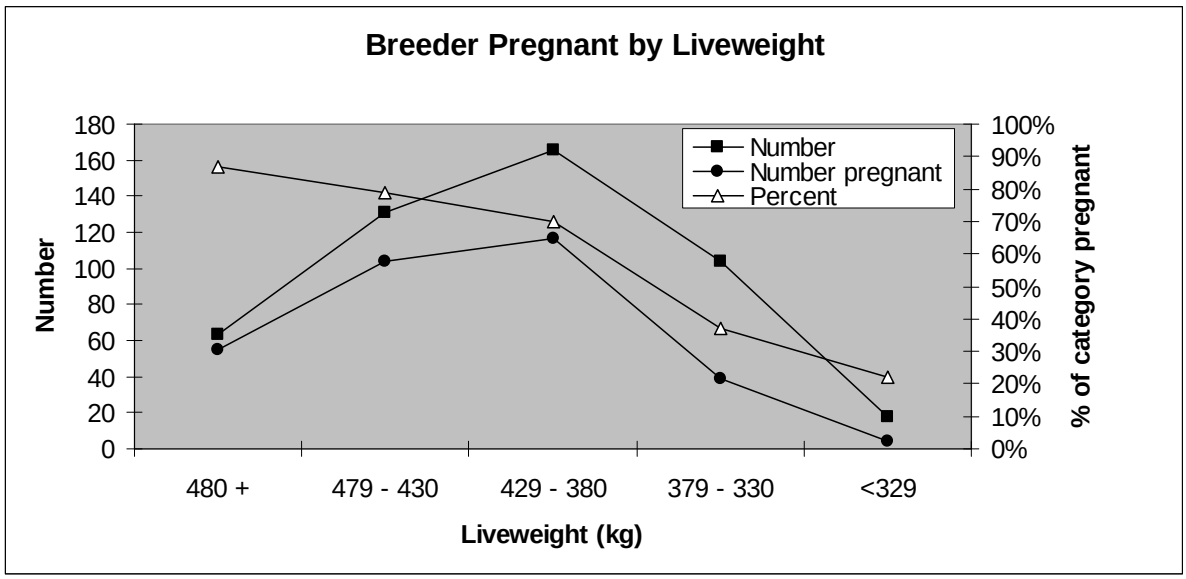

Figure 2. Breeder herd % conceptions by Liveweight

4.2.4 Herd health programs

During the PDS a vaccine was administered at Thalanga that had been stored incorrectly leading to doubts about its efficacy. It was decided to re-vaccinate those animals treated with this batch of vaccine. Because routine husbandry operations are recorded for each individual animal it was a simple matter to go back and identify the affected animals and set an alert note in the scale software. When these animals next appeared up the crush the scale indicator alerted the owner that they needed to be revaccinated.

4.2.5 Financial benefits of analysing recorded data

Bill Holmes, Principal Agricultural Economist, Townsville

The issue focussed on was defining what records needed to be kept, and whether to arrange different turnoff for steers according to when they were weaned. The records issue was going to depend on what production issues required data to enable their analysis.

Most profitable herd compositions, as determined mostly by age of steer turnoff, can be modelled and compared at the whole herd level using the Breedcow program.

In explaining why the answers come out as they do, and in drilling into the performance of smaller herd components, it is useful to think of the herd as comprising multiple “enterprises”, which compete with each other for a place in the profit equation.

The broadest division is between the breeders and the steers with the boundary between them at weaning. At this point the breeder enterprise can be imagined to “sell” the weaner steers to the steer enterprise. This forms the basis in dividing the whole herd gross margin (GM), and the whole herd adult equivalents (AE), between the breeder herd and the steers.

Typically in north Queensland the steers turn out a higher GM/AE than the breeders, though this is mediated by breeder performance, steer performance, and the price at which weaners pass from the breeder enterprise to the steer enterprise. The steer enterprise can be further divided into age groups, so that gross margins can be calculated from weaning to 18 months, from 18 months to 30 months etc.

The degree of enterprise substitution between breeders and steers is limited and mostly in one direction. For most producers, getting rid of the breeders and running all steers is not an option, even if steers do seem more profitable. On the other hand, long term enterprise substitution by increasing or decreasing steer turnoff age whilst altering breeder numbers to keep stocking rate the same, is well within the scope of most producers.

In general, if the enterprise has lacklustre breeder performance, older bullock turnoff may be favoured, but if breeder performance is brilliant then weaner turnoff may be profitable.

Let's say breeders can make $100/AE, first year steers $250/AE, second year $200/AE, and so on. If we start with a herd selling weaner steers, but considering older turnoff, we could look at the first year steers (weaning to 18 months). If we keep them we make $200/AE on them but have to cut back the breeders, costing only $100/AE – clearly a win.

Likewise the second year steers, at $200/AE look pretty good. They'll displace some more cows ($100/AE) but they'll also displace the first year steers ($250/AE) that arise from those cows. So just comparing each age of steers with the breeder GM is not enough.

The rule has to be when considering a change at the margin, compare GM/AE for the group in question with the overall herd GM/AE, since the stocking adjustment that will be made when you put a new group into the system, or take one out, will be a proportional adjustment of the whole herd.

The whole herd GM/AE is therefore an ***internal benchmark*** against which all proposals for herd structure adjustment can be tested. If the group in question falls below the benchmark, removing it will lift whole herd GM, or adding it will pull down the overall GM. if it comes in above the benchmark then adding it will improve the GM and removing it will reduce the overall GM.

In the context of the Thalanga this method was used to test whether it was worth pulling the tail off the steers to make way for more breeders. Overall GM/AE for the Thalanga herd was calculated at $170/AE/yr, split into $163/AE for the breeders and $196/AE for the steers. With increases in weaning weight it was possible for the GM/AE split for breeders versus steers to come in at $170 and $171 respectively.

This closeness of returns between breeders and growers opens up the possibility that there may be sufficient difference in steers GMs, based either on weaning group or "lead and tail" observations within a weaning group, to justify earlier sale of some steers to make way for more breeders.

Different Weaning Groups – or Lead and Tail

There are three weaning groups considered, for which we tried to estimate performance:

- From first calf heifers (which are mated ahead of the main mob), weaning occurs in mid-March at 4-6 mths and at 180 kg. These animals are to be sold in March two years hence (March/April) at 435 kg. The gain is therefore 255 kg in 24-25 months.
- Second round from other breeders at the end of April, weaners 4-6 mths at 200 kg, to be sold two years hence (March/April) at 435 kg. Gain is 235 kg in 23-24 mths.
- Third round August/September, aged 5-7 mths at 200 kg, to sell two years hence (March/April) at 420 kg. Gain is 220 kg in 19 months. This group is left on their mothers longer than the first round weaners so long as it does not set the cows back too far. Enhanced weaner performance is achieved at the expense of conceptions, but since

these cows are already "late" they are high in the queue for being culled and some will be sold empty the following year.

There seems to be no clear pattern here that would indicate a different steer turnoff strategy for any one weaning group. Although if animals in the tail of a group are clearly less profitable than the breeders, this would suggest a strategy of selling the tail early and increasing breeder numbers to take up the newly released carrying capacity.

This leads to two conclusions:

- Data on steer weights is important, since inaccurate estimates could mean getting the breeders versus steers analysis wrong, though the apparent closeness of the returns would mean that it would not be a costly mistake.
- The closeness of returns means that selling some poor doers early, allowing a slight increase in the breeder herd, could be worthwhile. This requires both the identification of the poor doers ***and*** the confidence that early post-weaning performance is an accurate measure of whole-of-life performance.

Part of the story here is that you can't work out accurate gross margins unless you have reliable information. In the case of Thalanga, NLIS has been a useful precursor to analysing the herd. Every time we revisited herd performance we were able to make changes based on information collected. NLIS ensured that accurate values where aligned to key production values and that predicted gross margins where as accurate as possible.

4.3 NLIS at Wambiana

The Lyons family at Wambiana contributed to the PDS through their role in the Value in Beef group. Michael Lyons presented at the Field Day and spoke on how NLIS is important to their business. Following is a summary from his presentation.

"You can't effectively manage what you don't measure. This is what is driving our NLIS recording. In our industry there is a lot of old wives tales and stories. Recording can be confronting. We got involved to find out what is happening in our herd and how our country is performing. We have now found that it is a terrific tool for increasing efficiency in our business. These are tight economic times and we are keen to collar as much efficiency as we can. We now have all our cattle at Wambiana recorded.

We monitor average daily gain in our steers. Over the last couple of years we have averaged 0.45kg/head/day. In September we inoculate for Botulism and HGP our steers, so all steers are weighed at that time. We halve the average daily weight gain and then pull out those steers below that and sell them – generally to live export at good early money. In this way we keep culling the tail of the mob which gives those steers performing more room and rests some country in preparation for the coming mob of first round weaners.

We also operate a bull breeding herd. Previously a lot or decisions were made on predominantly visual assessments. Through our involvement in the VIB project we made the decision to drive the herd objectively. Our preferred calving dates are October to December so we sold out the later calving cows and replaced them with early calving cows. The following graphs show the age and distribution of our bull breeding herd and the months they were predicted to calve in and then the distribution following sale and purchase of PTIC (Pregnancy Tested in Calf) females. NLIS allowed us to keep a good handle on our herd structure. Now to the bulls. All calves are tagged, mothered up and recorded into the system. At about 18 months of age we measure scrotal circumference of the bulls to see which ones are the early maturers. Information can also be collated so that we can look back and see the calving history of the dams.

All this recording is made possible because of NLIS. Without this technology the recording process would be very tedious and time-consuming. Our philosophy is that NLIS is compulsory, so why not make the most of it." Michael Lyons, Wambiana Station, Charters Towers.

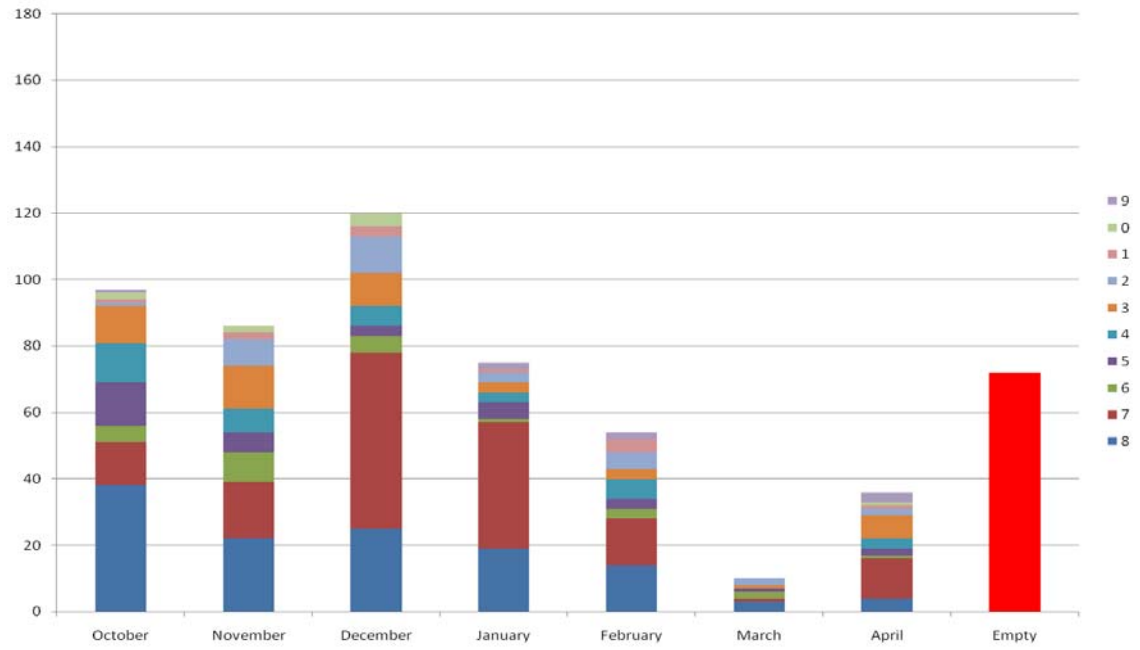

Figure 3. Wambiana calving spread (month and age group) at pregnancy diagnosis in September

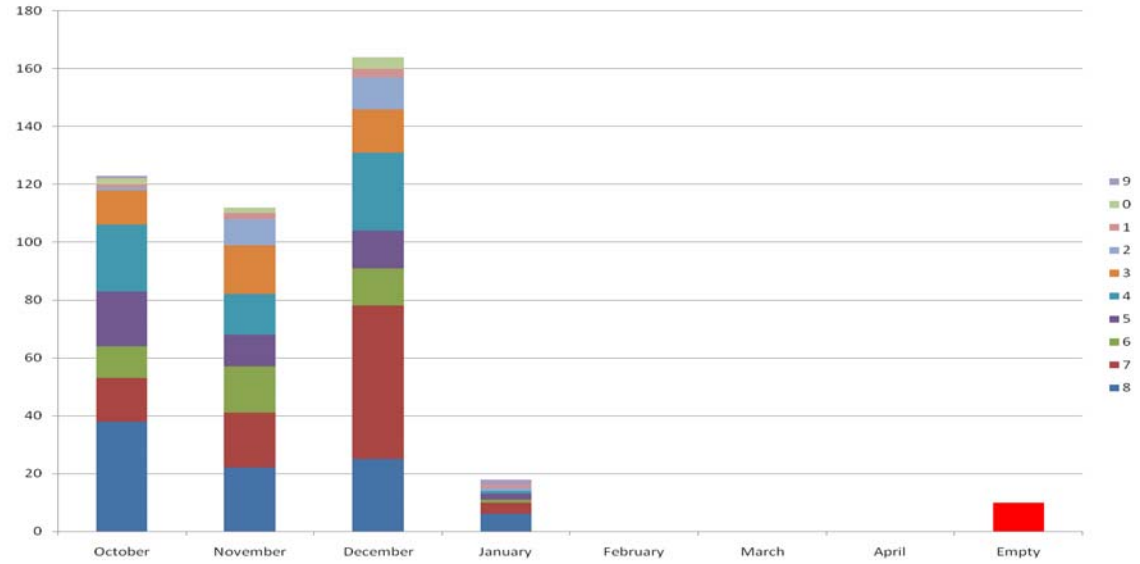

Figure 4. Wambiana calving spread (month and age group) after sales purchase

5 Success in achieving objectives

5.1 Increased capacity of individuals to use NLIS in their business

The PDS ran a number of activities to support individual learning. Activities were designed to bring producers into contact with tools and technologies that could be adopted in their own business as well as hear from other producers who had utilised a tool or technology.

The Charters Towers PDS group consisted of six businesses, ten properties, and 51,000 head of cattle across 325,000 hectares. By the end of the PDS all were actively using NLIS to some level. The level of adoption varied from monitoring all animals on the property to monitoring select groups within the herd such as weaners, heifers or steers.

Training information days included:

- Using NLIS scanning devices,
- Accessing the NLIS database,
- Equipment compatibility
- Stockbook (Herd recording program)
- Gallagher Ruddweigh technology (scales, scanners, loadbars)
- Producer presentations – How I use NLIS at home.

Producers had purchased a range of equipment by the end of the project including four different models of scale indicators and five different NLIS reading devices. While there is not a huge range of hardware available it does give a snapshot of the variety of equipment in use within the industry.

And the end of 2010 all producers involved in the group had increased their use of NLIS in their business.

5.2 Demonstrate

5.2.1 Application of NLIS to record and retrieve records

The Thalanga PDS site demonstrated that NLIS is an efficient way to identify individual animals and then retrieve information on that animal when needed. It allowed identification of inefficiencies in the Thalanga herd. The efficiency is in the time it takes to identify an animal and then link back to any records previously captured on that animal.

A field day was held at the end of the PDS to demonstrate to wider industry how NLIS was used at Thalanga. A presentation by Rob Rebgetz at Beef 2009 to over 100 industry participants also highlighted his experience in integrating new technologies into his business of which NLIS is a key component.

5.2.2 Management and financial benefits

The PDS demonstrated the application of retrieving individual animal data to identify fertility issues within age groups in the Thalanga herd. This will ensure management inputs are directed to where they are needed but also an evaluation of the success of those inputs can measured.

Financially the data provided has supported the business to better understand its true herd performance and then value that performance to reflect herd gross margins. Herd gross margins for Thalanga where updated as more data became available which highlight that the

original gross margin had information gaps and was therefore not a true reflection of performance.

Following the field day ABC Rural Reporter interviewed presenters Rob Rebgetz and Michael Lyons. Good media coverage of radio interviews occurred and aired on National and Local rural news programs highlighting the efficiencies NLIS was bringing to their businesses.

5.2.3 Methods and software for recording production information

The PDS didn't set out to look at all equipment and software options available. It did demonstrate to the group a range of options which resulted in a take up by group members of a range of options. This is a general reflection of what is occurring across industry as producers combine various software packages and hardware together that suits their needs.

5.3 Monitor NLIS tag retention

Tag retention overall was above 99 percent. There was one group that had a higher loss rate (15%) and this was due to a tag manufacturing fault. The manufacturer acknowledged that it as at fault and is aware of the problem. During the trial it was demonstrated that if the tag was not faulty and is attached correctly then loses are very low.

6 Impact on meat and livestock industry – Now and in five years time

A newly published MLA report, Northern Beef Situation Analysis 2009 discusses the productivity and profitability of northern beef production systems. It highlighted that on average producers have spent more than they earned in six of the last seven years. One of the contributors was the extremely poor performance of the extensive breeder herd. Objective measurements are critical in supporting businesses to understand profit drivers and look for opportunities for improvement. NLIS can play a key role in providing data to support this business analysis.

Recent research findings indicate traits relating to fertility such as age and weight at puberty and ability to cycle during lactation are moderately-highly heritable. For producers to utilise this information, individual animal performance records will be important.

As technology improves, the cost to implement this system may decrease on a whole of business cost or a per head cost. Younger generations involved in the beef industry have higher computer awareness and new technology will not be seen as a barrier to adoption.

7 Conclusions and recommendations

7.1 Conclusions

The project demonstrated NLIS can support industry gain efficiencies. If animal performance data is collected on individual animals it allows greater opportunity for management to intervene at that level rather than at the higher paddock or mob level. NLIS is not the sole method available, but it appears to be the most efficient when dealing with extensive numbers of animals.

Equipment failures will occur and one needs to enter into this system with the expectation that the more they rely on technology the more the impact will be when it fails. The problems are not insurmountable but it definitely causes a level of anxiety in the yards when it occurs. Tag retention is good when applied correctly but failures of tags due to manufacturing faults have occurred.

The value information gained from collecting data is often not evident until after the event. The process of commencing recording and looking at even basic information such as weaning weights has the ability to sharpen the focus of the business on animal performance. This raises questions and drives the need for further information. It then becomes a self driven cycle of record, understand what you are seeing, make some changes and continue to record. For producers some of the barriers to adoption include, technology aversion, cost of extra hardware required such as a reader and scales and a poor perception of tag reliability.

The value of good quantitative data in measuring business performance cannot be attributed a dollar value. Nevertheless there is no doubt that an accurate measure of business performance is more valuable than an inaccurate one.

7.2 Recommendations

1. MLA investigates the effective lifetime of an NLIS tag to ensure it meets industry expectations of matching the effective life of all animals in the herd. Tag losses due to operator error can be expected but failures due to manufacturing faults are disastrous when in comes to promoting adoption of NLIS as a management tool. Cases of tag failure should be quickly investigate and documented and details shared with industry. Some producer in the PDS had cases of tag failures and only when they went back to the manufacturer were they made aware of the problem. This can create a level of mistrust in the tag reliability which can influence the decision making process on adopting NLIS as a management tool.
2. Continue demonstration the efficiencies NLIS can deliver in extensive beef businesses in producer publications such as Frontier.
3. Consider updating publications on NLIS equipment and software options – Apart from the very comprehensive Kondinin Group research report (NLIS equipment and software compatibility) there are no current reviews of options available. The changing nature of technology can make this process difficult to manage. The question beef producers ask when wanting to enter into more intensive use of NLIS is, "*Where can I get a list of what equipment I could consider?*"

8 Appendices

8.1 Appendix 1. Media – National rural news

Cattleman says NLIS makes business more efficient

Friday, 19/11/2010

A north Queensland beef producer says using the national livestock identification system more extensively will mean a more efficient business.

The system, known as NLIS, makes it mandatory for all cattle leaving a property to be electronically tagged.

Michael Lyons runs beef cattle outside Charters Towers, north of Townsville.

In the past couple of years, he's put the NLIS electronic tags on all of his calves.

He says it's not mandatory, but the extra effort will pay off down the track.

"Time's are pretty tight in the industry, and (it's a good thing) if we can find some efficiencies of just keeping the cattle that are performing the best," he said.

"We're using the NLIS to try and identify those cattle."

National Rural News Fri Nov 19 2010

8.2 Appendix 2. Media – Storyline to radio interview on ABC rural report

North Queensland Rural Report
Friday, November 19, 2010
Miriam Hall, Townsville
Latest Report
NQ
Producers go extra mile with NLIS

Two North Queensland beef producers say keeping strict records on their breeding herd will mean a more efficient business.

Under the National livestock identification system, or NLIS, it's compulsory for all cattle to be electronically tagged when they leave a property.

The tags mean information on animals is stored and available.

Robert Rebgetz and Michael Lyons, are both from properties outside Charters Towers.

They've gone the extra mile with NLIS by putting the tags on most of their calves.

Both say it's been challenging, but the extra effort should pay off down the track.

8.3 Appendix 3. Media release for field day

Department of Employment, Economic Development and Innovation
Queensland Government

Media Release
6 October 2010

Better business decisions: NQ beef producers reap data windfall from NLIS

The National Livestock Identification System (NLIS) is not just about tracking a beast along the supply chain – it is a powerful tool that can maximize a beef business' performance.

North Queensland beef producers are encouraged to attend an upcoming field day that will demonstrate the benefits of harnessing NLIS data and incorporating it into the business decision process.

The field day will be held at Rob Rebgetz's property *Thalanga* near Charters Towers on Thursday October 21.

The Rebgetz's are cooperators in a Meat and Livestock Australia and Department of Employment, Economic Development and Innovation (DEEDI) co-funded Producer Demonstration Site project aimed at showing how the collection of NLIS data can effectively deliver livestock management solutions.

Over the past couple of years, Mr Rebgetz has been running a trial using NLIS technology as a tool to support the collection of performance data from his herd.

At the field day, the results of Mr Rebgetz's work will be reviewed, including which data he is using to achieve better business decisions. It will be a chance to hear about the "highs and lows" of data collection and application.

DEEDI senior extension officer Karl McKellar said the key to improving animal performance was to measure it.

"Innovative producers such as Rob have value-added to their investment in NLIS by using it to record individual animal performance," he said.

"It gives them access to a wealth of data."

To justify the extra time and investment in data collection producers must understand what data they need to best meet their enterprise objectives and how they can use that information to improve management and profitability."

To register for the field day people should contact the Charters Towers DEEDI office on 4671 5150.

Media: Andrea Corby 4760 1548

8.4 Appendix 4. Media - Landcare group visits Thalanga

City and country combine to learn

THE second annual Dalrymple Landcare City Country Day was run on Sunday, May 30 and saw 40 people travel out to properties for an insight into life on the land for today's primary producers.

Travelling in buses to one of three tours, participants in the day were offered a range of different experiences aimed at informing urban residents of how food is produced in the Charters Towers region.

With two cattle properties and a potato farm on offer, the tours each offered a unique experience for those involved.

The tour participants consisted of a diverse range of age groups, backgrounds and professions.

Local teachers from the School of Distance Education and Charters Towers State High School were again keen to support the event, with over 10 participants from these two schools alone.

Riverview hosts Michael and Natasha Penna and their children Adam and Olivia run a irrigated mixed cropping operation centered around 100 hectares of potatoes approximately 20km north of Charters Towers.

In addition to the potato production, there are also an additional 60 hectares dedicated to hay or grain production depending on seasons and prices.

Participants on the day were shown all facets of the primary production system in the paddock and behind the scenes in the machinery sheds.

A highlight for many participants were the hands on activities during the tour.

Riverview attendees were given the chance to see a potato plant growing in the field and to dig up a few potatoes for themselves.

Guests were also astounded to know that the potatoes produced at Riverview were a chipping grade and that within 48 hours of harvest made into packets of Smiths Crisps ready to eat, via their processing facilities in Brisbane.

Thalanga, a cattle property run by Rob and Leesa Rebgetz, approximately 60km west of Charters Towers, was a new tour for 2010.

Guests here were able to see first hand the different types of beef production technology which is on offer.

Thalanga also hosts a Meat and Livestock Australia producer demonstration site, focused on the National Livestock Identification System (NLIS).

A live run through of how the system is used was provided by property owner Rob, with his two sons Ned and Matt on hand to assist in the livestock handling.

In addition to the cattle handling, a tour of several paddocks on Thalanga by local DEEDI officer Bob Shepherd and Karl McKellar explained to participants on the day the importance of environmental management on grazing properties.

Rob was able to explain how efforts to improve fencing and water infrastructure on the property in conjunction with careful stock management has led to the improvement of the properties land condition and long term sustainability, as well as the condition of his livestock.

Michael and Michelle Lyons from Wambiana Station, 70km south of Charters Towers, hosted a group consolidated by school teachers who actively participated in all activities on offer, from water devining to pregnancy testing, dipping and branding of cattle.

The tour of Wambiana also focused heavily on the diversification of the business from strictly cattle to also include tourist buses during the winter months of the year.

For over 20 years, the Lyons family has hosted predominantly exchange students from USA, offering them the chance to gain a genuine Outback experience.

Michael and Michelle Lyons have four young children, are educ elle via cation.

Provi view of complet using c telephon to two inforce ance of the mo nesses i

Mich vided a the imp and re such as ing D (RFDS) emerge vice ov in some emerge

Overa Country been he by the Dalrym Commit

At pre plannin event a and is expandi beyon Towers.

John the DL

Dan Marshall, happy fourth birthday for last Wednesday, Dano. Love Mum, Dad and Ned.

Danicka Hilton, happy seventh

Prices ease

CHARTERS Towers combined agents yarded 2722 cattle at Wednesday's sale at Dalrymple Saleyards.

The yarding consisted of 1882 prime cattle and 840 store cattle.

Prime: 813 bullocks, 67 heifers, 911 cows and 69 bulls; stores: 372 steers, 410 heifers and 58 cows and calves.

Cattle consisted of large lines of finished and plainer type bullocks.

The yarding was drawn from Hughenden, Mt Garnet, Greenvale, Mt Coolon, Chillagoe, Mt Surprise, local and coastal areas.

The overall market was 3-5c/kg lighter across the board for better types.

Heifers, medium up to 440kg, 65 head, lowest

Charters Towers Cattle Market

Brought to you by Geaney's — The Auctioneering Specialists — 158 GILL ST. CH. TOWERS — 4787 4000

ing 552.5c/kg to return $824 per head.

A line 468 of No 6 and No 7 steers on account Camm Cattle Co from Lolworth Station realised 127c/kg for 445kg and returned $572 per head.

Top priced trade heifers were presented on account M Marnane, Prestwood, Croydon making 115.2c/kg to weigh 458kg and return $527 per head.

The top pen of 3 Brahman cows were sold by Spring Park, Charters Towers for

36 head, lowest 76.2c/kg, average 120.2c/kg, highest 159.2c/kg; 200-280kg, 179 head, lowest 58.2c/kg, average 114.2c/kg, highest 131.2c/kg; 280-330kg, 168 head, lowest 60.0c/kg, average 113.2c/kg, highest 131.2c/kg; over 330kg, 26 head, lowest 81.2c/kg, average 124.0c/kg, highest 131.2c/kg.

A pen of 34 steers on account B and S Smith, Talleroo, Mt Surprise made 176.2c/kg, weighed 220kg and re-

8.5 Appendix 5. Seminar flyer beef 2009

FutureBeef seminar program

Smart science
New technologies
Profitable beef businesses

12.15 pm – 12.45 pm

Integrating new technologies into a beef business

Mr Rob Rebgetz, Grazier—Thalanga Station, Charters Towers

New technologies can create efficiencies and quality improvements in cattle production and improve the profitability of beef businesses.

North Queensland grazier Rob Rebgetz will discuss how he has integrated new technologies into his business and the outcomes they have achieved. Rob will also talk about his whole-of-business approach to improvements and his interactions with Queensland Primary Industries and Fisheries and the role we fulfil for him and his business.

About Rob

Rob and his family operate Thalanga, an 18 100 ha property 56 km west of Charters Towers. Rob's main focus is on running a viable beef-producing enterprise without compromising the integrity of the resources he uses.

Rob and his family have hosted a number of Queensland Primary Industries and Fisheries' research and development projects on grazing land management, production systems and National Livestock Identification System (NLIS) technology.

12.45 pm – 1.00 pm

Summary session

Panel of speakers

This session is an opportunity to put your questions to a panel of experts.

Queensland Government

8.6 Appendix 6. Thalanga field day feedback summary

NLIS Field Day Feedback Summary

Location: "Thalanga", Charters Towers *Date: 21 October 2010*

Cattle Producers

Yes	9	No	4	No Answer	2

Rate Aspects of the Day

Usefulness overall		**Information Provided**		**Delivery of Information**	
Excellent	9	Excellent	11	Excellent	10
Satisfactory	6	Satisfactory	4	Satisfactory	5
Poor		Poor		Poor	

Why

- Very interesting
- Great job explaining what they do
- Very educational and I gained from this experience
- The information was pertinent to our operation
- It was practical
- Well put together, the information and expertise on offer was brilliant
- High chance we won't get to have this equipment
- There wasn't as much info on the computer side as I expected

How the Workshop could be modified to make it more useful/of interest

- To trace parentage
- Meat quality and teach the young, start at schools. We should have children here.
- Have Gallagher Rep present
- Explained how to add data on computer
- Rehearsal of Kerry's talk → Geoff

Key take-home message

- What computer program to use for our farm
- The tags are mandatory, we might as well value-add them and use for decision-making
- Data collection is important and should be collected to help understand what is happening in the herd
- We won't be changing what we do now
- If you're going to collect data, don't lose it!
- Practical breeder herd management at work. 1st calf cows can achieve good conception rates.
- Weaner rates and influence on reproduction, NLIS and management system available and information gathered.
- Technology is good but it is electronic and can still fail or cause problems
- This is an easier way to record things
- Consider what information you need before you start

Topics which require more time/information

- The best lick to help with pregnancy
- The best lick to help with weaners

Knowledge/skills learnt

- Michael's bull breeding was interesting
- How some of the new programs work
- NLIS – influence on management
- Early weaning weights and effect on fertility
- Set-up procedures and methods

Currently use NLIS monitoring/management tool

Yes	2	No	10	N/A	2

Would it now be considered?

Yes	4	No	4	No Answer	5

Comment: Only have 30 head, otherwise yes

Overall Comments

- A lot of this is hard for a 55 year+ to use in management plans
- I'll be looking to come back to see the program in all seasons
- A good day
- Great initiative involving students in industry
- Well organised and laid out

8.7 Appendix 7. Photo Thalanga field day – Rob Rebgetz

8.8 Appendix 8. Photo Thalanga field day - Michael Lyons