

# BREEDPLAN NEWS

## INTERNATIONAL BEEF RECORDING SCHEME



Issue 15, March 2005

## National Extension Plan

**Australia's beef cattle breeders can look forward to an innovative national technical extension service stretching forward to 2010 in the first phase.**



*Mr Les Davis (Shorthorn Beef), Dr. Rob Banks (MLA) and Dr. Arthur Rickards (ABRI) at the signing of the Southern Technical Program contract.*

The National Extension Plan is the result of collaborative agreements being forged between Meat & Livestock Australia (MLA), the Agricultural Business Research Institute (ABRI), the Beef Improvement Association and the majority of Australia's beef cattle breed societies. The aim is to give every one of the 2500+ BREEDPLAN users the opportunity to attend a regional workshop on the latest developments for a nominal cost. Limited on-farm assistance with recording programs will also be provided together with professional assistance to the technical committees of participating breed societies. The aim of the program is to ensure our beef cattle breeders are in a position to maximise their understanding and use of BREEDPLAN technology, thereby accelerating genetic improvement to its full potential with resultant economic benefits.

The National program will be conducted in two sub-programs – the Tropical Beef Technology Services (TBTS) program in the North for the tropical breeds and the Southern Technical program for *bos taurus* breeds. The TBTS project has been running

successfully in Northern Australia for over six years. Some key outcomes have been:

- A 2.4 times increase in BREEDPLAN recording.
- Over 80% of performance data is recorded electronically.
- A doubling of breeds using GROUP BREEDPLAN.
- All participating breeds now put pedigree and performance information in the public domain using Internet Solutions.
- Over 400 on-farm visits conducted to provide technical assistance.

The TBTS project has been extended for three years from July 1, 2005. To date it has been run using a full-time Technical Officer in Rockhampton – currently Christian Duff. By 2006, the TBTS project will expand to have part-time assistance provided in Murgon and Armidale to complement the full-time focus in Rockhampton.

Training has commenced to put together a technical team for Southern Australia. Active field work commences in 2006 and will run until the end of 2009 in the initial term. The requirements in Southern Australia are different from the North. GROUP BREEDPLAN, BreedObject and Internet Solutions have been used by most societies for many years but there is much work to be done to ensure that these services are used to their potential. Sixty-four applied breeder workshops will be run across all States over four years with on-farm follow-up. Training will be provided in the new StockTake software from AGBU which helps breeders to audit their genetic progress.

The request for the Southern Technical program came out of the Strategic Planning Workshop of the Australian Registered Cattle Breeders Association (ARCBA) in August 2004. The retirement of Brian Sundstrom as the National Technical Specialist of BREEDPLAN and foreshadowed retirement of other beef extension icons like Bob Freer have provided a wake-up call that we must have a succession plan for the high quality technical program that we have all taken for granted. The TBTS program and the Southern Technical Program will allow BREEDPLAN to train a multi-person team of young technical officers and give them the responsibility of operating a co-ordinated national technical extension program to the beef industry. Up to six young graduates will be involved in this program – and importantly most will have 30 years of professional life ahead of them. Most of the positions have been filled but ABRI would still welcome further applications. The program is radical but necessary to ensure that uptake of the BREEDPLAN technology keeps pace with the research and development behind the product.

**Arthur Rickards**  
Managing Director, ABRI

# Editor's Note

My ten years editing this newsletter has been challenging but always rewarding (once at the printers). Challenging in the constant chasing of contributors and trying to ensure new and accurate material. Rewarding in the learning I gain in the process and the stimulation and feedback from discussing matters with readers met in my travels.

Well, what topics to feature in my final issue – yes, final for me, as I retire this year:

- BREEDPLAN has recently improved the way it handles imported (immigrant) animals which are new to the system. This is discussed on page 12. If you read this, it is worth remembering some history: BREEDPLAN initially started immigrants at zero and they slowly found their level. The next move was to start at breed average. Naturally there were complaints about the slowness to get meaningful EBVs, on expensive imported sires for example. A few years ago a system was introduced to convert EPDs or EBVs of imports, to Australian equivalents and start them at this level. The overseas information was to phase out, as real progeny were recorded. It became evident however, that in some cases the imported information was being given too much weight. This has been rectified for 2005, but resulted in some well known imported sires changing EBVs. Most will welcome the correction once the dust settles. Note in most cases they are still high \$indexing (say top 5% instead of 1%) and that the overseas information is still being used, but with less emphasis.
- We look at developments with feed efficiency EBVs (p. 11) – a most important trait, but challenging to measure. There are also some correlations with fatness to be managed and possibly fertility and tenderness links to be watched out for. These are currently being researched by the CRC as Australia continues its world leadership in this field.
- A significant extension activity for me in 2004, was a series of workshops for client groups of major feedlots (combining my CRC and BREEDPLAN technical transfer roles). Participants included cattle suppliers, agents, vets and feedlot staff, ensuring great information exchange.
- Occasionally at field days I am accused of being too figure orientated (while AGBU at times think I am not keen enough on \$indexes, which we discuss on page 6 and 12). I hope I've always stressed the need for structural soundness in balance with

BREEDPLAN figures. As evidence, see image of a model bull I helped develop with Bob Gahan and two UNE carpenters in 1992. It is still widely used at events such as the Armidale Feeder Steer School, but without the head! I am pleased to see moves towards structural EBVs in BREEDPLAN (p. 15).

Working with such a professional group and the top class BREEDPLAN product, has been very stimulating. I have been associated with several world firsts, such as carcass EBVs from scanning in 1990. Although Lorna Pelton's Texas A&M team was very advanced, the US didn't have the technology into EPDs until several years after us. For the latest on scanning see p. 11.

If you would like to keep in touch, [briansundstrom@yahoo.com](mailto:briansundstrom@yahoo.com) will find me.

Cheers and good cattle breeding.

Brian



*Editor - Brian Sundstrom has recently retired as Cattle Breeding Co-ordinator with NSW DPI (Agriculture). Part of this role involved Technical Specialist and Advisory work with BREEDPLAN from an office at ABRI. His other major extension responsibility was with the Beef CRC Group. Brian wrote most of this pre-retirement*



*Top: Model Bull Brian helped develop in 1992. Above: With Texan scanner Lorna Pelton, who came to Australia in 1988 to help with our scanner accreditation.*

*Editor Brian Sundstrom with Andrew Thompson manager of Tasmania feedlot during a workshop there. This feedlot is owned by a major Japanese supermarket chain, with over one km of beef display shelf, we were told. They are HGP and antibiotic free and feed only Tasmanian bred Angus (12 000 pa), though they are currently developing a sizable Wagyu herd.*

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## Six Breeds Join

2004/05 has seen a significant push into the UK market, with ABRI securing contracts with six Breed Associations for the use of BREEDPLAN International for their pedigree and performance recording programs.

The six breeds represent over 40% of the pedigree beef sector in the UK.

Historically, performance recording in the UK has been delivered to breeders not via Breed Associations, but through a separate Meat and Livestock Commission (MLC) funded body. This is similar to Australia 20 years ago, when NBRIS delivered the performance program, and Breed Associations were involved in pedigree recording only. By making the move to BREEDPLAN, these Breed Associations have eliminated duplicate recording for breeders, reduced the costs, and created opportunities for themselves by becoming actively involved in the genetic progress of their breed.

The use of BREEDPLAN offers these Associations increased opportunities for future involvement in global or across-country genetic evaluations, and access to a range of technologies previously unavailable to small or medium-sized Associations. All groups have full access to ABRI's Internet Solutions (see p. 4), with sale catalogues, pedigree and EBV searches being extremely popular and well-used.

Relative to Australia or North America, these Breed Associations may appear quite small (in cattle recorded), but historically their importance has been central to commercial cattle populations in major beef breeding countries.

The **Aberdeen Angus Cattle Society (AACS)** was the first UK breed to use BREEDPLAN. With herdbooks dating back to 1862, AACS is the original source of the world populations of Angus. They currently record 12 500 calves a year, with 260 members in the BREEDPLAN performance program. Since August 2004, AACS has operated the integrated BREEDPLAN International pedigree-performance system from their Perth Scotland office. With the release of their first BREEDPLAN EBVs (and \$Index) in January 2005, AACS are now in full production, with the world-renowned Perth February Sales further show-casing

BREEDPLAN EBVs to a wide audience of seedstock and commercial buyers.

The other UK breeds now using BREEDPLAN are: **Simmental** (5500 registrations); **Hereford** (4500 reg., history back to 1846); **Beef Shorthorn** (1500 reg., back to the world's first herd book in 1822); **South Devon** and **Belgian Blue**. Some of these associations have the systems installed in their offices and some use the AACS Perth office facility. Belgian Blue still have their pedigree recorded at Holstein and monthly downloads are merged with performance data. While these different needs created challenges, the flexibility of the BREEDPLAN system has proven sound.

A spirit of cooperation now exists between these Associations with the formation of a users Group (BREEDPLAN Performance UK). This functions similarly to the Australian BREEDPLAN Technical Liaison Group - meeting periodically to discuss issues and technical developments related to BREEDPLAN and performance recording in general.

The future now looks brighter for these breeds in the UK, with opportunities for the analysis of new traits, breed-specific Indexes targeting specific markets and across-country or global evaluations.

Murray Scholz



The top-priced bull, lot 308, sold for 30,000 guineas, approx. \$77,000 AUD. This photo during a snowstorm

Aberdeen-Angus Breedplan																							
<b>308</b>	<b>NETHERTON FIGO C244</b>																						
<b>Born</b>	<b>20/05/2003</b>																						
<b>Sire:</b>	<b>NETHERTON ROYAL SOVEREIGN A072 (UK542697 100072)</b>																						
<b>Dam:</b>	<b>NETHERTON FRANCES X63 (MDB.X63.23)</b>																						
2005 Winter Aberdeen-Angus GROUP BREEDPLAN EBVs																							
Calving Ease Dir. (%)	Calving Ease Dtrs (%)	Gest. Len. (days)	Birth Wt. (kg)	200 Day Wt. (kg)	400 Day Wt. (kg)	600 Day Wt. (kg)	Milk Wt. (kg)	Carcass Weight (kg)	Eye Muscle Area (Sq. cm)	Fat (mm)	Retail Beef Yield	Terminal Sire Index											
EBV's	-3.4		+4.0	+34	+56	+75	+7	+2.6	-0.5	+1.1	+33												
Accuracy	21%	73%	65%	63%	59%	42%		39%	45%	43%													
Ave. 03 calves	-1.5	-0.4	+1.1	+2.0	+24	+40	+50	+4	+29	+1.8	0.0	+22											
Weight at 06/02/05																							
<b>970</b>																							
EBV Percentiles for NETHERTON FIGO C244 2005 Winter Aberdeen-Angus BREEDPLAN EBVs																							
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50th Percentile in the Breed Avg. EBVs for 2003 Born Calves																							
Pedigree Cattle Services, Pedigree House, 6 King's Place, Perth Scotland PH4 8AD																							

Sale Card from February 2005 Perth Sale Lot 308

## BREEDPLAN IN AFRICA

# South African BREEDPLAN

## Success continues!

Nearly 50 % of the total beef membership in South Africa and all societies in Namibia (16 beef, 5 smallstock and 2 Equine) now use the ABRI and BREEDPLAN recording systems. South Africa's largest society, the SA Holstein, also recently decided to use the ABRI registry system.

However, the hard work continues. The databases we inherited left a lot to be desired and it has taken ABRI staff many hours to help us clean up database problems. Our Brangus and Braford members are now in the process of including historic breed composition information into their databases. To get decent reproduction EBVs a female inventory system is required and societies are hard at work with their members to send in the required information.

Despite the data problems the systems are functioning extremely well. Our web systems are very popular and the hit rates continue to grow every month. Especially encouraging has been the rate of adoption and understanding of selection

on EBVs by our members. Central performance and on farm growth tests are fast becoming a thing of the past as producers realize that selection on EBVs and whole herd recording is the way to go.

We have nearly 400 HerdMASTER users (see p. 18). I believe that our success can be attributed to the good local support we have been able to provide. Pierre Joubert is our full-time support person. Though the program is initially a bit of a challenge to new users they quickly come to grips with the functionality if they are prepared to persevere. Societies are now receiving a flood of electronic submissions, both registration and performance data.

Our Southern African BREEDPLAN Societies are keen to work toward

combined genetic evaluations.

Our environments are very similar and I believe that in many instances the types of cattle we use are similar as well. The Brahman and Limousin societies are leading the way and have already been in communication with their Australian counterparts.

Finally, we look forward to the World Angus Congress to be held in South Africa. BREEDPLAN will undoubtedly have strong representation at this congress. We believe that 2005 will be a good year for BREEDPLAN and wish all BREEDPLAN clients throughout the world a successful, happy and prosperous 2005.

Michael Bradfield



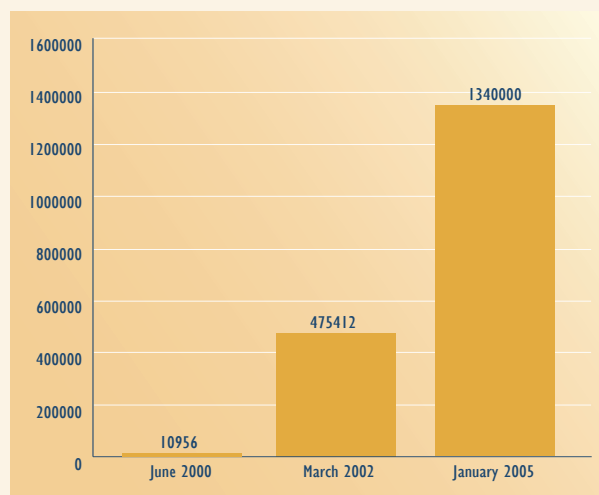
## Internet solutions hits another record

ABRI's Internet Solutions information system for its livestock breeding clients hit another record in January 2005 with 1.34 million page enquiries. This represents a 40% increase on January 2004. The service received just 10,000 enquiries when it was launched in July 2000 and so the growth can only be described as spectacular. The star performer in January 2005 was the American Hereford Association, their application received an astronomic 243,214 enquiries. Other breeds to hit an all-time high in January in Australia were Hereford/Poll Hereford, Limousin, Shorthorn, Droughtmaster and Red Poll. In North America highs were achieved by Canadian Angus and American Braunvieh. South African Brahman hit a record, and in the UK Angus, Shorthorn and Simmental were at record levels.

### Online information worldwide on:

- Pedigrees
- Breeding values
- Sales Catalogues
- Progeny lists
- Livestock photos
- BreedObject
- Membership enquiry
- Mating predictor
- Internet registrations
- Performance data entry

Internet hits in January 2005:





## South America: An update

Three years from my last visit to *Land of the Tango* and in less than 24 hours of touching down in Buenos Aires I was invited to open a bull sale and speak to the media.

BREEDPLAN is without doubt having an impact in one of South America's most important agricultural sectors.

Ten years ago I took on the role of supporting a small group of Argentinean Angus breeders joining BREEDPLAN. There are now over 30 in this group - passionate about their cattle and totally committed to genetic improvement. Breeders like Beno Bustingorri and Carlos Sackmann are striving to make a difference and for them, using BREEDPLAN helps achieve their end point, more beef/ha. BREEDPLAN interest accelerated in 2000 when Grupo BREEDPLAN Angus Argentino was formed and adopted a fully integrated Pedigree/Performance system. Within 12 months, the newly formed Group was attracting much interest in the industry.

Several other South American breed associations and breeders have also joined, or are in the process. For example, Hereford herds such as Asociación de Monjes Cistercienses - (see image of their monastery) and Fernando Hernández - Cabaña San Edmundo realised that for them to achieve their breeding objectives, they needed to use the technology.

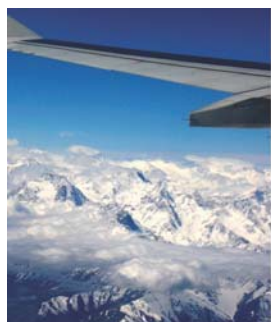
Following my visit in 2001 with Don Nicol, we saw a real need to have a local contact point in Argentina. In 2003, ABRI appointed Dr. María Calafé to help expand ABRI's services into the Mercosur aligned South American Countries.

Last October, Don Nicol and I included Paraguay in our itinerary. María had received an inquiry from there and we decided to present a BREEDPLAN seminar in the Capital - Asunción. The seminar was organised by Helmut Klassen of Quebracho Genetics. It attracted nationwide media coverage and a very receptive audience. Quebracho Genetics has now contracted with BREEDPLAN to provide services to Paraguayan breed associations.

María's appointment has led to an increase in BREEDPLAN's exposure and helped in securing contracts such as the above, and a new agreement with Grupo BREEDPLAN Angus Argentino. This agreement includes the Internet Solutions that ABRI has successfully marketed globally and a first for Latin America.

The next 5 -10 years will be exciting times for BREEDPLAN in South America, with increasing exposure and strong opportunities to increase market share.

Michael Beattie



*Top: Michael's images from South America: flying over the Chilean Andes, three in one Head Bail, Gaucho in the Pampas, bull sale at los Gateados, checking tattoo at La Matesha and a typical grazing country in Santa Fé*

*Left: María Calafé at Paraguay Seminar*

*Right: Michael in front of the Monastery of the Asociación de Monjes Cistercienses*



## NEW ZEALAND FOCUS

# \$Index put to the Test

In the western corner of southern New Zealand, where the cold southerly blasts of the Antarctic continent are a constant reminder of its proximity, lies one of New Zealand's most intensively farmed stations. The 11,000 hectare 'Mt. Linton' has been farmed by the McGregor family for over 100 years.

In the early days it was an extensive pastoral sheep run, with the higher country supporting the predominantly merino flock and the easier country, scrubby native vegetation. This formerly unproductive area now is covered in ryegrass and white clover. In winter a relatively small area of swedes is grown as part of an annual regrassing program. Development of the higher tussock-clad country continues with 200 ha annually converted to more productive species, using the cowherd to 'break' the matted vegetative surface in autumn/winter, ready for aerial sowing in spring. The station also owns three finishing properties on the Southland plain, and leases a large irrigated property in Canterbury.

In recent years, under the guidance of Alistair McGregor, one of the stations more focussed objectives has been to improve the genetics of its sheep and cattle. It was one of the early members of the NZ Romney Development Group (the first sheep group breeding scheme in NZ), was an early adopter of European cattle genetics in the early 1970s and has the largest Texel flock in New Zealand. Today it runs a performance recorded Angus (PRAC) herd of around 700-800 females, together with a commercial herd of 1000 cows that is now predominantly Angus. The PRAC herd, purchased as a commercial herd about twelve years ago, is based on Te Mania bloodlines. Since being at Mt. Linton this has been bred with a very strong maternal focus and emphasis on marbling, as the station produces a significant number of cattle for the Five Star feedlot (the only major feedlot in NZ).

Early breeding objectives in the PRAC herd focused on ease of calving, fertility, longevity, growth (particularly to 400 days), milk, mature weight and marbling.

Around 400 cows are AI'd annually using proven sires that:

- Display high direct and maternal calving ease,
- Significantly bend the growth curve at both ends,
- Have moderate milk EBVs and
- Break the negative genetic relationships between carcass yield, rump fat and marbling.

The breeding objectives today haven't basically changed, however now that New Zealand Angus has developed a self-replacing (NZAASR) BREEDPLAN \$Index, all the difficult calculations associated with identifying and prioritising traits of economic importance and accounting for genetic relationships between traits, have been removed. Genetic selection of sires, herd replacements and culling of mixed age cows has become so much easier.

Last year I was approached by Mt. Linton to review their breeding program, and to reduce the number of performance recorded cattle in the herd, starting with selection of the 320 replacement yearling heifers. We decided to use the NZAASR Index as the primary genetic selection tool and EBVs to identify any extreme animals. The heifers were run up the race, any below breed average Index, any predicted to be below 300 kg at mating, plus those with extreme EBVs for calving ease/birthweight, growth and milk were drafted off. The keepers were scrutinized for breeding soundness, temperament and type and some 10 % culled. The final mob was surprisingly even both phenotypically and genotypically and in great order for AI. The process took about 5-6 hours and was greatly simplified by the use of the Index, which proved a roaring success. If faced with the same job again, I would not hesitate to revisit this approach



The mixed age cows will be culled on breeding soundness 2-3 weeks after weaning to let the cows dry off to allow a thorough inspection of udders. Other culling will be done on feet, legs, teeth/jaws, temperament, fertility and a combination of age and condition (old cows in very light condition will be culled). The cows remaining will be ranked on the NZAAR Index using Internet Solutions and the required number of the poorer performers removed.

Future AI sires will initially be selected using Internet Solutions to rank them on the Index, then EBVs will be used to do the fine tuning. Natural mating (mixed aged cows not AI'd) will be performed by high-ranking homebred bulls of acceptable 'type' that are reproductively sound.



**Russell Priest**  
Meat and Wool New Zealand  
Beef Genetics Coordinator

# Global Hereford Genetic Evaluation

**As part of the recent 14th World Hereford Conference, an international genetic linkage project was undertaken. The main goals were to generate linkage across countries (Australia, Canada and USA) to gain a better understanding of how Hereford genetics perform in different environments and to lay the foundation for a possible global evaluation.**

Steer progeny were grown, finished and had full carcase evaluation (see Australian bred steers, below). Results for the growth traits were presented at the conference, and demonstrated that rankings for Australian and North American sires were similar across hemispheres. Following the presentation of these results, delegates voted to take the next step towards a Global Hereford Genetic Evaluation.

Representatives from Australia, Canada, New Zealand, Uruguay and USA met in October 2004 to discuss implementation of the evaluation. It is planned to launch the Global Hereford Genetic Evaluation at the 15th World Hereford Conference, in Denmark in June 2008. Prior to this, it

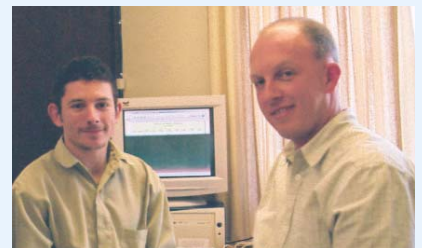
is hoped to have a Pan American analysis as a first step in 2006 and the preliminary world analysis in 2007. Argentina, Australia, Canada, New Zealand, Uruguay, UK and USA all have data analysed in BREEDPLAN and will participate in the evaluation. They account for over 95% of Hereford performance data globally, however other countries may join the project.

The global evaluation will allow Hereford cattle around the world to be directly compared on the basis of genetic merit for key traits. There are also some similar initiatives underway for Charolais and Shorthorn.

**Brian Sundstrom**

## Stacy Sanders visits ABRI

Stacy Sanders is Director of Computer Records with the American Hereford Association (AHA). In March, 2005 he spent a week with the ABRI and AGBU to fine tune facilities provided within AHA's implementation of the BREEDPLAN International System. In preparation for the Global Genetic Evaluation of the Hereford breed, the AHA has engaged AGBU to re-estimate genetic parameters for all of their recorded traits. Stacy reviewed this work. He also made a number of suggestions for enhancing Internet Solutions. When implemented, this may lift the enquiry rate to AHA's site beyond 300 000 pages per month (see p. 4). Stacy appreciated the opportunity to meet with Warren Clark of the Australian Poll Hereford Society and to visit Grant and Jo Nivison at Yalgoo.



*Jay Stone and Stacy Sanders at ABRI's office*



*The Australian bred steers were finished in the Beef CRC research feedlot 'Tullimba' to the west of Armidale. Growth, carcase traits, feed efficiency and temperament were recorded. The automated self feeders measuring individual feed intakes can be seen in the front of the feedlot pens.*



# ‘Swans Lagoon’ Benchmarking and Herd Improvement using BREEDPLAN

‘Swans Lagoon’ Research Station is owned and operated by the Queensland Department of Primary Industries and Fisheries (DPI&F). It is located South West of Ayr, North Queensland in the harsh dry tropics, northern speargrass region. The breeder herd has been comprised of a nucleus herd of approximately 150 breeders and a commercial research herd of up to approximately 1500 mated breeders.

The ‘Swans Lagoon’ herd has been closed to outside genetics for approximately 30 years. Research on the property has focused on traits that have not required importing of new genetics. The present ‘Swans Lagoon’ genotype is described as 5/8 Bos indicus 3/8 Bos taurus genotype. This genotype resulted from the initial AI of Shorthorn cows to Brahman sires.

In 2004, the Department of Primary Industries and Fisheries decided they needed to 1. benchmark the herd with Industry and 2. objectively improve production traits in the nucleus herd. In discussions with Tropical Beef Technology Services (TBTS) and the Droughtmaster Breed Society, it was decided to join Droughtmaster GROUP BREEDPLAN to accomplish this goal. Droughtmasters are the closest comparable genotype and it was therefore most appropriate to commence a genetic analysis with that society.

Performance data for 8 calf drops (1997 to 2004) was included in the 2004 Droughtmaster GROUP BREEDPLAN analysis. The resultant EBVs are considered within-herd only as the ‘Swans Lagoon’ herd currently has no genetic linkage to existing Droughtmaster BREEDPLAN herds.

To produce the required genetic linkage an AI program has been undertaken with sires that have been used in other Droughtmaster BREEDPLAN herds. Approximately 200 females have recently been inseminated to existing ‘Swans Lagoon’ sires and the select Droughtmaster sires. Existing ‘Swans Lagoon’ sires are being used so direct comparisons can be made between their

calves and those of the Droughtmaster sires. This will also provide genetic linkage back to earlier calf drops that only have calves from the ‘Swans Lagoon’ sires represented. An additional 200 ‘Swans Lagoon’ breeders are being single sire mated to either ‘Swans Lagoon’ or Droughtmaster sires.

The Droughtmaster sires were selected with input from DPI&F staff, Droughtmaster breeders and TBTS. The selection criteria for the bulls were:

- Top 25 % and higher for growth and Scrotal Size EBVs.
- High accuracy in EBVs.
- Also to be used in at least 1 other herd producing progeny with EBV’s.
- Tidy Sheath.
- Scrotal size above 34 cm at 2 years of age (depending on nutrition).
- Dam fertility records.
- Pass a bull breeding soundness evaluation.
- Adapted to Northern Queensland environment.

The ‘Swans Lagoon’ calves out of the current mating program and future matings will be measured for a range of traits including weight (200, 400, 600 day), scrotal size, ultrasound scans (EMA, Fat depths) and flight time. The breeders will also be weighed when their calves are weighed at weaning (Mature Cow weight) and matings details submitted for the future generation of days-to-calving EBVs. The resultant EBVs from the analysis of these traits will allow more effective selection on economically important production traits.



‘Swans Lagoon’ Breeders (5/8 Brahman 3/8 Shorthorn) in the AI program.

The existing sire selection on Swans lagoon has been primarily based on bull fertility measures (Bull Breeding Soundness Evaluation BBSE) in association with the requirements for many research studies.

To boost the numbers in the Swans Lagoon breeding program it will be replicated in two other pedigree recorded Droughtmaster herds situated in North Queensland. These herds are Lisgar Droughtmasters (Home Hill) and Glen Ruth Droughtmasters (Hughenden). 120 females at Lisgar and 150 females at Glen

## List of the Droughtmaster sires selected and used in the first year’s joinings (2005) at Swans Lagoon with their GROUP BREEDPLAN EBVs:

Sire ID	200 d Wt	400 d Wt	600 d Wt	SS	Mate Type
WS602622M	+7 (63%)	+17 (63%)	+28 (65%)	+1.3 (70%)	Natural & AI
WS69977M	+14 (71%)	+27 (72%)	+38 (73%)	+1.0 (72%)	AI
JAV99975M	+11 (76%)	+14 (78%)	+20 (79%)	-	Natural
BOM9937M	+21 (81%)	+37 (82%)	+54 (83%)	+1.4 (81%)	AI
QYB0236M	+1 (64%)	+5 (66%)	+8 (67%)	-	Natural
<b>Breed Average</b>	<b>+2</b>	<b>+3</b>	<b>+5</b>	<b>+0.1</b>	
<b>Top 25 %</b>	<b>+5</b>	<b>+7</b>	<b>+11</b>	<b>+0.4</b>	

Ruth will be AI'd to either the 'Swans Lagoon' or select Droughtmaster sires. This will provide strong genetic linkage, which is essential in the GROUP BREEDPLAN analysis.

The inclusion of the 'Swans Lagoon' herd in Droughtmaster GROUP BREEDPLAN will also provide an excellent opportunity for the demonstration and expansion of another tropically adapted performance tested genotype and provide effective selection information for the northern beef cattle industry.

All involved in this program are waiting in anticipation for the first genetic comparisons of performance between calves from the 'Swans Lagoon' and Droughtmaster sires. This will occur mid-2006.

For further information on the 'Swans Lagoon' Breeding program or Droughtmaster GROUP BREEDPLAN:



**Christian Duff**

Tropical Beef Technology Services  
Rockhampton. Tel.: 07 4927 6066  
tcts@bigpond.com

**Alan Laing**

Dep. of Primary Industries and Fisheries  
Ayr. Tel.: 07 4783 2355  
alan.laing@dpi.qld.gov.au

# BREEDPLAN Extension

## Team work gets the message across

This February over 110 producers attended a BREEDPLAN focused field day which was run at Neil and Rosalie Watson's property 'Watasanta', Tamworth.

Neil and Rosalie Watson have been members of Santa Gertrudis BREEDPLAN since 1999. They started with John Bertram (Goondiwindi DPI&F) in the yards explaining the relationship between an animal's looks and genetic differences. Four heifers were used to explain how basic genetic differences (or EBVs) are created. Their raw weights were adjusted for age and then converted to *in principle* EBVs. John interacted with the audience to discuss other factors that can affect raw performance (such as nutrition and age of dam) as well as traits that are economically important in breeding programs.

David Greenup, 'Rosevale Santa Gertrudis', Jandowae, then used the groups of animals and experiences from 'Rosevale' to further explain how EBVs are calculated and interpreted. For example, David explained the scrotal size EBV using a group of yearling bulls and the data used to derive their EBVs (Table 1).

The evidence that EBVs are a powerful female selection tool was shown when a group of 3 cows and calves (by the same sire) were bought into the yards. The raw performance of the calves mimicked the 200 day weight EBVs of their dams.



However, David Greenup then raised an interesting experience from a field day at 'Rosevale' in 2004. Two yearling bulls were bought into the yards, one being obviously more eye appealing than the other. He asked the audience to pick which bull they would prefer to take home. With their eyes being their only selection tool 95% of the audience selected the more eye appealing bull. David then surprised the audience by announcing they were identical twins (from a recent DNA profile). The difference in looks came about from one being fed a concentrated ration for a couple of months and the other being on natural pasture while running with cull cows. In this situation, which could be extrapolated to many bull sales, the majority of the producers paid for the feed not the genetics.

Other topics discussed were data quality (Michael Rush, BREEDPLAN), Proof of profit using EBVs (Christian Duff and John Bertram) as well as fertility and structural selection points in bulls (John Bertram, Burnett Joyce, 'Gyranda Santa Gertrudis' and Anthony Coates, 'Eidsvold Station Santa Gertrudis').

All speakers involved were very interactive with the audience and constructive discussions took place the entire day.

**Christian Duff**

**Table 1: Data used to show how the SS EBVs are derived:**

Bull Tag	Sire	Raw SS	Age (days)	Age Dam	Adj SS	SS EBV
618	W Watabull	42	394	5	43	+1.1
574	W Watabull	34	445	6	33	-1.0
582	C Alfie	39	441	5	38	+0.2
Breed Average (2002 drop)						0.0

**Adj SS:** Adjusted scrotal size is the raw scrotal circumference measurement adjusted for both the age of the animal at measurement and the age of the animal's dam. Measurements are adjusted to that from a standard 400-day old animal born from a 5-year old dam.

**SS EBV:** The Estimated Breeding Value for Scrotal Size is based on differences in the adjusted scrotal sizes of animals and also takes account of the heritability of scrotal size. Heritability is a measure of the proportion of the differences between animals within a management group, which is genetically controlled and will therefore be passed on to progeny. The heritability of scrotal size is 0.40 or 40%, which is why EBV differences are considerably less than differences in adjusted measurements. The remaining 60% of the measured difference is due to the environment and measurement errors.

*In the pictures above:  
Top: The audience at the "Watasanta" field day  
Bottom: The delivery team – Roy Robertson, David Greenup, John Bertram, Christian Duff, Michael Rush, Anthony Coates, Benita Davis, Burnett Joyce, Neil Watson and Rosalie Watson*

# CRC III Funded

In this section of the newsletter, for the past several years, we have reported on outcomes from the Beef CRC research group. Much of the genetics information is built into BREEDPLAN (feed efficiency, IMF%, scanning, etc). It was therefore very good news last December, to hear of Federal government approval of a third Beef CRC. This will start in June 2005 and allow a lot of current work to continue and be expanded.



Dr Heather Burrow

The CEO of the new CRC is Dr Heather Burrow, who is deputy CEO in the current CRC. Heather comes from a CSIRO research background, with many years based at Rockhampton where she worked on important projects. A key one, which she led, identified the temperament trait flight time and proved its links with important matters such as feedlot performance and meat tenderness.

The overall theme of CRC III is *Gene Discovery and Gene Expression* under which the research team will address four industry priorities:

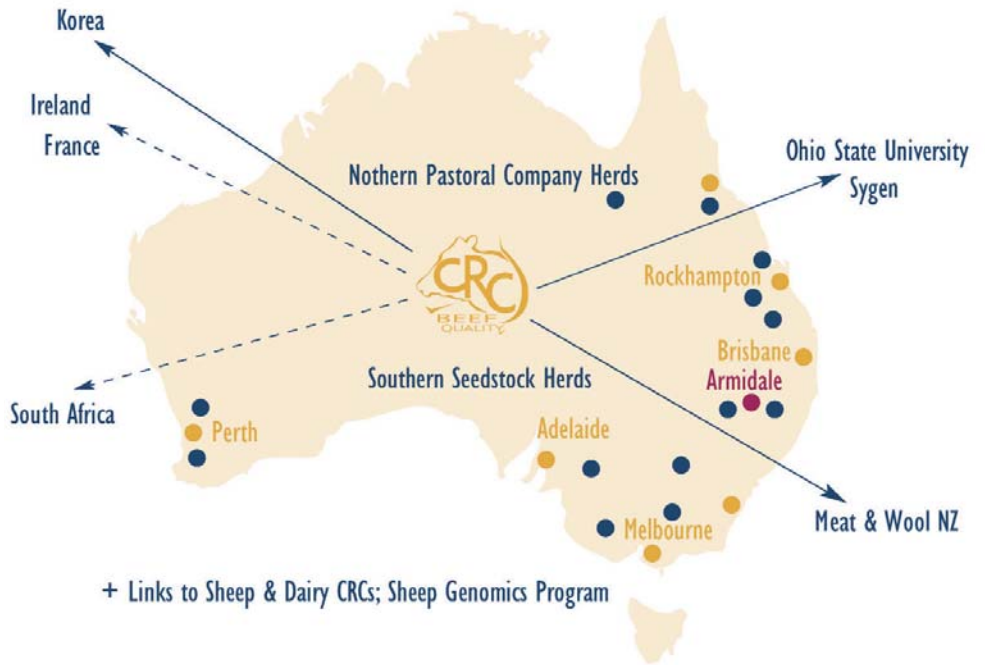
- High Quality Beef for Global Consumers.
- Feed Efficiency, Maternal Productivity & Responsible Resource Use.
- Adaptation & Cattle Welfare.
- Female Reproductive Performance.

As you will see from diagram above, there is considerable collaboration planned with research groups all over Australia and many other countries.

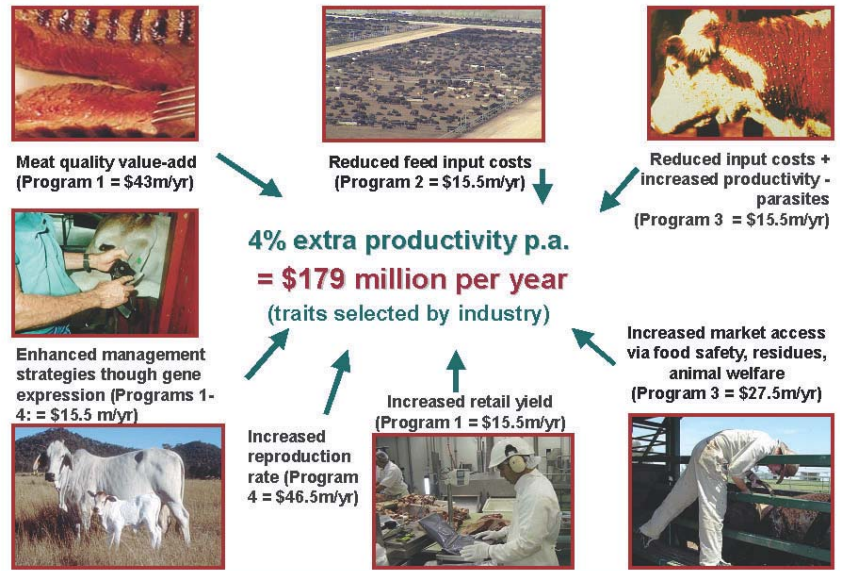
This will bring extra benefits, and is a considerable advance from the four Australian groups starting CRC 1 in 1993 (CSIRO, UNE, NSW Agriculture and Queensland DPI).

Brian Sundstrom

## Collaboration plans for CRC III



## Estimated Annual Impact of CRC Outcomes from 2012



# Feed Efficiency Studies

Feed efficiency studies continue at the CRC, in tropical and temperate areas. One emphasis is to find more about traits which may be influenced by selection for efficiency. As reported in previous issues, fatness is one trait, with more efficient cattle being a little leaner. Other areas being investigated are possible links with tenderness and fertility. It must be stressed that these genetic correlations are not particularly strong, there are plenty of animals which go against the overall trend. If all traits are watched, it will be possible to breed progeny with improved efficiency and acceptable in the other traits. These correlations await more research before inclusion in the BREEDPLAN model which calculates Net Feed Intake(NFI) EBVs. Until then, people using these EBVs should carefully watch all these EBVs. One of the main CRC northern research programs to provide some of the answers is nearing completion. It is outlined on page 9 and some heifers pictured below. In the interim, the heritability and importance of feed efficiency has been further proven. For example the Angus society progeny test at Trangie research station (see image below).

Brian Sundstrom



▲ Composite heifers at 'Toorak' research station, Nth Qld.  
 ◆ Bob Dent, extension manager Australian Angus, with Brian Sundstrom and a feed intake demonstration at a 2004 field day. The most efficient bull ate 12.2 kg/day on test (left feed bags) while the least efficient gained the same, but ate an additional 5kg/day (right bags).

# CD Rom

## CRC Genetics: findings and outcomes

A CD ROM has recently been released of GENETICS findings of the Beef CRC. I was the editor, drawing on my 10 years experience with NSW Agriculture doing tech transfer for the CRC. The other lead authors are David Johnston, Peter Parnell and Wayne Upton. As a lot of this research has been used to enhance BREEDPLAN, and we have all worked in this area, the CD contains a lot of information relevant to BREEDPLAN users.

The CD has simple introductory summaries, through to scientific papers and slides. Most slides have notes to assist their use in presentations.

The material is arranged in the following areas:

- **Background:** Introducing the CRC. There is also a video on carcase assessment and specifications for various markets, explaining terms used in the CD.
- **Straightbreeding project:** Results from a major progeny test with 7 breeds, including: heritabilities; correlations; effects of grain V grass finish; moving cattle North South; sire rankings for crossing V straight breeding and for different market weights.
- **Northern crossbreeding project:** Nine sire breeds over Brahman cows, with progeny finished on grain or grass to different weights.

Cattle from these experiments were also used for other studies with the findings commercialised/adopted in mixes with other technologies. These outcomes are included in sections of the CD including: **Enhancing BREEDPLAN carcase EBVs; Multibreed EBVs; Ultrasound for carcase prediction; Gene markers; Feed Efficiency; Docility effects on meat quality and feedlot performance.**

A short version can be viewed on

<http://www.beef.crc.org.au/genetics/>

A second CD in the series with Health and Welfare; Meat Science and Growth and Nutrition outcomes, will be available shortly.

Brian Sundstrom

### Obtaining the CD: \$10

from:

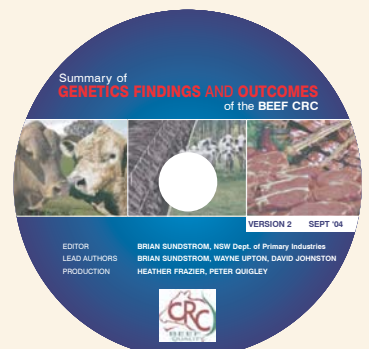
NSW DPI Beef Centre, UNE

Armidale, 2351

Tel.: 02 6770 1804

daphne.johnston@agric.nsw.gov.au

This low price includes GST and postage, aiming to get the material out as widely as possible. Cheques payable to NSW Agriculture, (the former name of DPI, still used this financial year for ABN and GST reasons).



# Why EBVs changed for some overseas bulls

**Most BREEDPLAN users will have noticed changes in the EBVs of overseas sires (and their progeny) in their latest BREEDPLAN runs. Some of these changes were due to a recent modification to the procedure for using overseas genetic information.**

The modification was flagged in last year's BREEDPLAN News (no. 14) and various breed Societies notified their members. In brief, prior to 1998, breeding values on overseas bulls were not used in BREEDPLAN, even though they may have had many progeny analysed in an overseas evaluation. In the absence of international evaluations for our breeds, the next best thing we could do was to attempt to use the published overseas information (eg. EPDs). AGBU scientists developed a new procedure and, in consultation with industry, it was decided that the overseas information should be used as a 'starting value' for a newly imported sire and when sufficient local data became available it should dominate the EBV. The procedure was introduced in 1998. However after a number of years, industry feedback

suggested a problem and the procedure was reassessed. This revealed too much emphasis was being placed on overseas information, particular for bulls with extreme EPDs or many progeny with only mid-parent EPDs. Changes in the overseas evaluations in the past 7 years also have affected the procedure. The original methodology was developed primarily on weight traits, however with the emergence of other traits in overseas evaluations (eg. scans) the procedure had to be updated. As a result some traits now receive more weighting than others. This was based on analyses that showed the correlation between the overseas EPD and BREEDPLAN EBVs of sires with progeny measured for both was different across the traits (and breeds). Importantly for carcase traits differences can exist across countries because the

overseas EPDs are expressed on an age constant basis whereas the BREEDPLAN EBVs are expressed at a 300 kg carcase weight basis.

The procedure was altered (and the imported data files modified) to ensure the desired emphasis is being achieved and this resulted in changes to the EBVs of some overseas sires (and their progeny). The latest EBVs better reflect differences between animals for the performance of their progeny measured under Australian conditions.

David Johnston

## Some important points:

- Overseas EPDs are still used as a 'starting value' for the BREEDPLAN EBVs.
- Overseas data contributes differently across traits (and breeds).
- If no Australian data exists for a trait then the BREEDPLAN EBV is driven by overseas data and pedigree information.
- When Australian progeny records become available the contribution of overseas data to the BREEDPLAN EBV declines eventually to zero.
- High accuracy bulls may have changed. Accuracies reflect the (effective) number of progeny. Whereas a change to the methodology such as this will result in a change in EBVs irrespective of the accuracy.

## \$ Index Developments

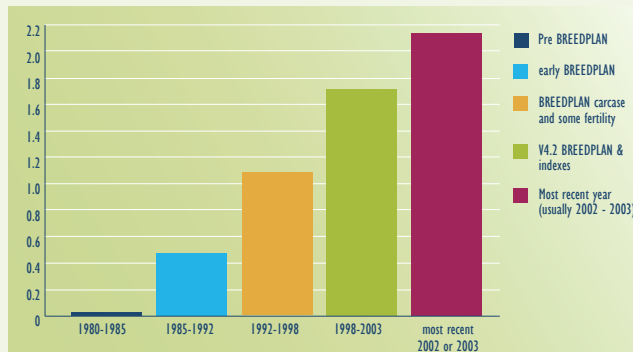
### Some highlights:

- Work is progressing towards incorporating the feed efficiency EBV, Net Feed Intake (NFI) into the BreedObject \$Indexes of those breeds with NFI EBVs - viz Angus and Hereford/Poll Hereford. It is hoped to do this late in 05. Earlier AGBU research showed NFI is of significant economic importance and therefore will 'benefit' indexes. Latest estimates of correlations with fatness and possibly fertility (see p. 11) will be built in.
- Several breeds in New Zealand have installed \$ Indexes, tailored for their markets and production systems. These are available on the full range of internet search systems and have been well received (see p 6). Some NZ Societies have expressed interest in being able to run their indexes also over Australian databases. This of course requires agreement among the relevant breed organisations in each country, but is a natural development we will encourage.
- Indexes installed for UK Angus, Shorthorn and Belgian Blue (see p. 3).
- As part of a report to MLA, AGBU estimated the rate of genetic gain, over time, in 23 \$ Indexes of the major Australian breeds to provide an estimate of the total gain occurring across the industry. While not using NFI (see above),

expected feed costs were taken into account. The increase in rate of gain has been very significant, as shown below. There are large differences, however, between breeds and between breeders. Some breeders are making much faster gains. Greater attention to selection will yield much greater gains for the industry.

Steve Barwick

### Rates of Genetic Gain in Australia (\$ per cow per year)



# Management Groups - VIP

Most bull breeders in BREEDPLAN, take care when performance recording.

They keep scales calibrated, ensure correct I/D (easier now with electronic tags) and carefully transfer records from paper to computer if required.

However many may not fully understand the importance of recording management groups correctly for the accuracy of the resulting EBVs.



Lack of proper management group recording not only affects the EBVs of young animals and their parents, but can introduce additional errors for maternal, and other EBVs, later in life.

**A milk EBV example:** Assume you have a cow with a good heifer calf at foot. With some other cows you pull them out and prepare for a show. Because of the extra care, the calves grow bigger and weigh an extra 30 kg at 7 months when you record weaning weight. Let's assume you do not record the management group. The calf will get a higher than justified weaning weight (200d) EBV and the dam will get a couple of kg bonus in her milk EBV. The exact figures will depend on number of recorded paternal and maternal half sibs of that calf, but it will be at least 5 kg for 200d EBV. After weaning, the heifer calf is run with its drop, normally mated and has a calf in the main mob. You carefully record the weaning weight of its first calf and BREEDPLAN now identifies that the next generation calf is not as heavy as was expected from the inflated EBV of the cow. Now this is of course not a fault of the calf, but is interpreted to some extent as a lack of milk in its dam, as weaning weights are driven genetically by two components - growth genes of the calf and milk genes of the dam. So the milk EBV of the cow, which so far was a mid-parent value, will be below this estimate, very much to your disappointment.

This example is perhaps a little far fetched, as I hope all BREEDPLAN users understand, that animals prepared for show or sale should always be recorded as being in a separate management group. The principle applies to any animal receiving different treatment and they should be recorded as being in separate management groups eg. a calf whose mother had mastitis. For the overall accuracies of the EBVs in a herd, it is better to record these animals in single animal management groups, rather than leaving them together with all other animals. Of course records in single animal management groups don't get used in the analysis and the animals will end up with mid-parent EBVs.

When planning separation of animals into different groups for management reasons it is important to take as many measurements as possible before the group is split and to balance the number of progeny from each sire if practical. We don't want to have single sire management groups, as such groups provide no data for genetic evaluation of sires. By balancing the number of progeny across sires you maximize the available information. For example, two sires in two management groups with 24 progeny of sire A and one progeny of sire B in one group and one and 24 progeny in the other is much less valuable than 12 and 13 and 13 and 12, respectively.

Hans Graser  
Director of AGBU



AGBU is a joint venture of NSW DPI and the University of New England. They are responsible for developing and maintaining BREEDPLAN software. For more information on AGBU: Tel.: (02) 6773 2055 <http://agbu.une.edu.au>

## Genetics Information Feast

The 16th Biannual Conference of AAABG will be at beautiful Noosa on 25-28 of September.

The location alone should be sufficient reason to attend, but much more will be on offer for those more technically inclined. The 3 day meeting provides the opportunity to listen to and ask questions of latest research in animal breeding. Over 30 papers are from AGBU scientists (not all beef) along with research from other projects (and species), including the Beef CRC. International guest will be Professor John Pollak from Cornell University. John currently heads the US National Beef Cattle Evaluation Consortium.

## Further Building Female Fertility

Research has started to enhance the genetic evaluation of cow performance traits. The first work in this area was investigating the effect of parity (first, second or third calf) on the female fertility trait days to calving (DC) in Angus and Herefords. Insufficient records in Herefords limited the results to Angus at this stage. Research suggests that DC is lowly heritable at all 3 joinings, but appears to be a different trait in first calf heifers. Importantly the research has also revealed that for Angus, measuring scrotal size as an indirect measure of DC, is likely to only be of benefit if measured early in life (less than 400 days). This work will be repeated with other breeds and recommendations made for performance recording and analysis.

Further research is also planned to estimate genetic correlations between all traits in the complex of maternal traits including days to calving, milk, fat, mature size and possibly net feed intake and longevity. Data from the northern CRC project will be pivotal for northern breeds (see p. 11). The project has measured 2200 Brahman and Tropical Composites for age at first CL (Corpus Luteum), using ultrasound, which is a good indicator of puberty. Complete joining, calving and culling details are available on all females, with many of the cows now being mated for their 3rd calf. The data also contains repeat measures of weight, body composition, structural and adaptive traits measured throughout the year. The newly funded Beef CRC through the Maternal Productivity project also aims to provide greater understanding of the genetics of maternal efficiency, particularly relating to cow feed intake.

# Calf Weighing

## ... in the south

One of the pleasures of my job has been the wonderful people I meet and seeing how they handle challenging cattle tasks. One such person is Susie Chisholm. She runs a 460 cow commercial Angus herd near Adelong in southern NSW.

The 'Gwalia' herd is fully recorded on BREEDPLAN, as a progeny test herd with the Te Mania Angus stud. This includes weighing calves at birth: a challenging and difficult task which this petite 60 year old, does on her own, with the aid of a good cradle.

Susie finds the calf weigher a great help, particularly as the calf can generally be tipped over into the bucket, (one hand each on the tail and flank), rather than lifting the full weight. *I circle the cow and calf a couple of times on the bike, which seems to disorientate the cow as to her calf's location, giving me time to catch the calf. Once the calf is upside down in the bucket, the cows are very quiet. Susie told me. The performance recording, as well as assisting Te Mania, is value adding my cow herd and the steers are in great demand.*



I. Caught

## ... and in the north

At the other end of Australia, in a completely different environment, the staff at 'Alexandria Downs' are also using this calf weighing cradle to good effect. Alexandria is a North Australian Pastoral Company (NAPCO) station. It is approximately 16 000 sq km and runs a breeding herd of 40 000 composite cows. The composite has been developed since 1987 and is now stabilised at 3/8 Brahman; 1/8 Africander; 5/16 Shorthorn; 1/8 Charolais and 1/16 Hereford. There is a bull breeding nucleus of 1000 cows which has detailed performance records taken, including birth weights. Stud head-stockperson Pam Allsop, told me the cradle handles the conditions well, with only some minor alterations to strengthen it.

*The bulls are evaluated through the company feedlot in southeast Queensland. We are particularly happy with the fertility of the herd on 'Alexandria' (average over 80%). Growth rates, adaptation and carcass quality are all very good.*



Calf weighing on 'Alexandria Downs'



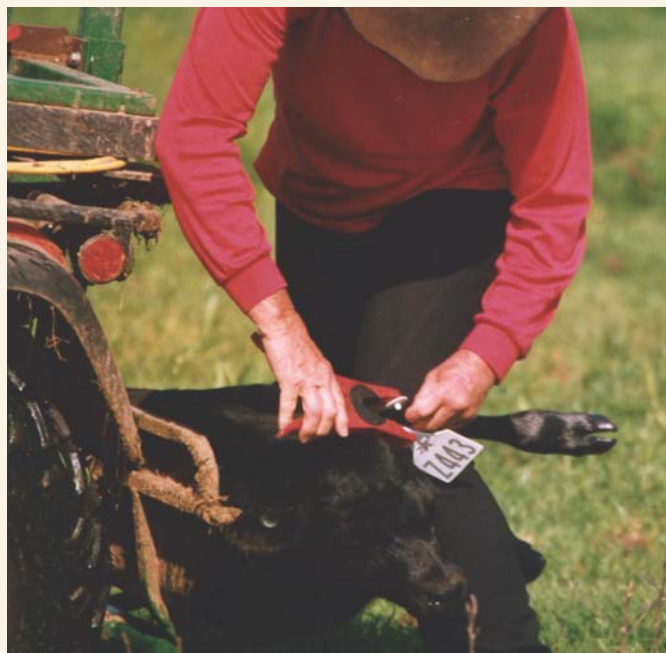
**Other calf weighing equipment:** In the 2000 edition of BREEDPLAN News, we featured an excellent cradle, with gas lift struts, developed by Warwick Vinge when he worked at 'The Glen' Murray grey stud. An improved version is now made and sold by Trevor Allen (02) 6037 1545.

**Brian Sundstrom**

*Note: The calf weigher shown here and opposite, was originally made by Ruddweigh and marketed by ABRI. It is now made and sold by Ramage engineering Guyra 02 67791958.*



2. Tipped into the bucket. Digital weight displayed from load cell scales



3. Tagged, then side of bucket drops to release the calf.

## Structural Scoring Update

**Industry interest in structural scoring is increasing with herds in both Australia and New Zealand scoring animals. However, data has been slow to come into the system despite reduced BREEDPLAN processing rates (50c per animal covering all traits on one day) and Angus Society of Australia absorbing this on behalf of its own members.**

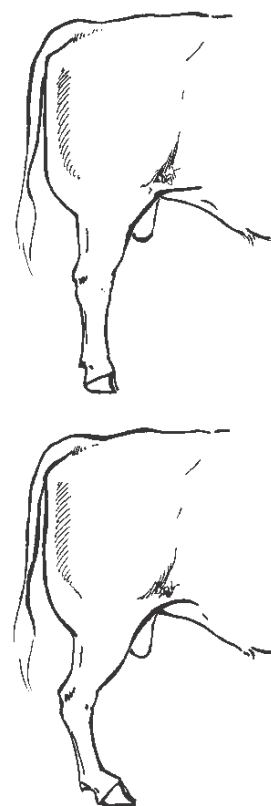
Australian Angus has over 3300 animals recorded from 23 herds for structural traits. There are another 1000 animals recorded from other breeds as well.

ABRI has continued to process structure data at half the normal rate (ie. 50 cents rather than \$1.00) and this offer has been extended to 30 June 2005. The Angus Society of Australia will continue to absorb this fee for its members as well. The discount applies to data added to the database prior to the cutoff - so submit your data for processing as soon as possible!

AGBU has included developing an analysis for structural traits into their workplan for the second half of 2005 - assuming there are enough animals with structural data recorded on the databases (AGBU needs at least 5000 records of reasonable quality with genetic linkage to proceed).

A second structural scoring accreditation course was run in July 2004 and there are now 16 accredited assessors in Australia and three in New Zealand.

**Jack Allen**



*Leg angulation is one of the traits scored along with feet, udders, sheath, etc*

Details of accredited assessors are on the BREEDPLAN web site: <http://breedplan.une.edu.au/>

# Exciting new Software Platform coming

For the past three years the ABRI's Christopher de Crespigny has led a team of up to four software specialists who have been developing a new software system for breed society recording that is integrated with BREEDPLAN. Called the International Livestock Register 2 (or ILR2) this software is expected to dominate the global market for livestock recording systems over the next decade.



The project, costing around \$1.5M, has been made possible by seeding capital provided by the Federal Government through the International Livestock Resources and Information Centre. ABRI's current software for breed societies, called ILR1, is a market leader which is being used in twelve of the world's major livestock countries. However, software technology is advancing rapidly and ABRI has used the latest tools to develop ILR2.

The software is designed to optimise the efficiency of record handling through extensive use of internet. This will see breed societies move towards paperless offices. ILR2 has comprehensive on-line recall of all input and output to achieve higher productivity in breed offices. ABRI is confident about the thrust for an Internet-enabled system because its current Internet service to breed societies receives over 1.3million page enquires per month with annual growth of 40%.

Using ILR2, ABRI will be able to extend its service to breed societies worldwide without those societies needing to invest in expensive hardware. All that will be required will be a PC, laser printer and a fast connection to an internet service provider. Larger breed societies in overseas countries may still prefer to do processing in-house and this can be achieved using industry-standard servers.

ILR2 will be interfaced with an enhanced computational engine for BREEDPLAN which is being developed by the Animal Genetics & Breeding Unit (AGBU). This engine offers faster solution time for GROUP BREEDPLAN so that it will become economically feasible to do these vital runs more frequently.

The product is also designed for the inevitable rationalisation of breed societies. This rationalisation will see a number of societies using one administrative team.

An operator will be able to have the screens on a number of societies open at one time - facilitating multi-tasking.

The screens will also be available in a number of languages. ILR2 will be compatible with the current generation of radio frequency identification devices (RFID) as well as the new read/write tags being developed by Infineon Technologies (p.17). Thus ILR2 can easily be extended to running databases for supply management systems or national traceability schemes. ILR2 will allow ABRI and other agencies appropriately licensed by ABRI to provide services to a number of breeds of a range of species across a number of countries and in a variety of languages - using a parameter driven implementation of the software.

Not surprisingly, ILR2 is the largest software project ever undertaken by ABRI. Its rollout to existing and new customers will start in 2006 and will extend through a period of over five years - such is the size of ABRI's existing user base.

ABRI's clients can look forward to participating in the new software platform that is likely to have a 15 year productive life. Their respective costs of entry will be a fraction of the development cost.

**Arthur Rickards**  
Managing Director, ABRI



*Christopher de Crespigny, responsible for the new software system development.*

# Tagging the Future

The ABRI has signed off on one of the biggest strategic alliances in its history, that is expected to create a major business opportunity through the development and global marketing of a new electronic animal identification tag, matching readers and software.

The new tag, expected to revolutionise animal traceability for food safety purposes, can transmit information at 100 times the speed of conventional tags at less cost and can store up to 10 A4 pages of information.

The strategic alliance will result in ABRI and PrimaryLink™, the agricultural business unit of Infineon Technologies Australia Pty Ltd, combining their resources of advanced software and radio frequency identification systems (RFID).

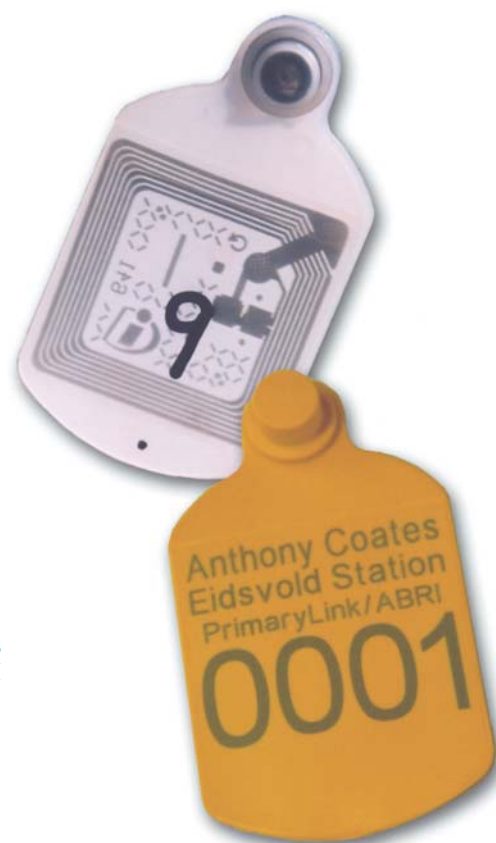
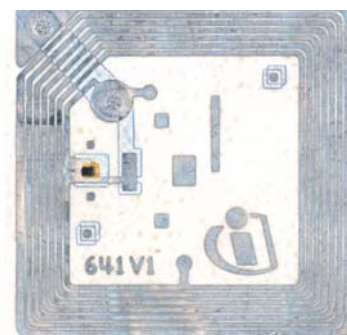
Field trials of Infineon's 13.56MHz-based electronic tag with read and write capacity are well advanced. The Infineon Tag is expected to supersede the current RFID system which is read only. This will create a challenge for the National Livestock Identification Scheme (NLIS) in how to handle such a major technology upgrade for the benefit of the Australian beef industry.

The project is backed by a giant in the electronics industry. Infineon Technologies AG, based in Germany, is the world's number one security and smart card chip manufacturer with over 35,000 employees and over seven billion Euro in annual revenue.

Based on this leading competence, Infineon has created an innovative new global business unit called PrimaryLink™, based in Melbourne, to develop solutions for the exponentially growing market of livestock identification and data management in association with ABRI. The parties believe that food safety is emerging as the number one issue in livestock production. Livestock producers globally will require access to low cost and functional systems of livestock identification and traceability that underpin supply management and food quality assurance. This joint venture will deliver that outcome in a way that meets the needs of producers, consumers and government agencies - and importantly, this global initiative is being driven out of Australia.

Over the last three years ABRI has invested over \$2Million in new software for breed associations and commercial producers. Linking this software to the world's most advanced livestock identification system is expected to give ABRI an unassailable lead in the global market for innovative livestock recording systems.

**Arthur Rickards**  
Managing Director, ABRI



Mark Walsh, Infineon Technologies Australia MD; Klaus Gohlke, CEO Asia Pacific Operations; Ed Wright, Chairman of ABRI and Arthur Rickards MD of ABRI sign off on Global Strategic Alliance.

# HerdMASTER developments

Over the last year Saltbush continued its commitment to provide a total system solution for the data information needs of livestock producers. We have continued to develop and add features that users have requested. Some of these features include:

- Photos for animals.
- Easy to use fully customisable reporter.
- Export and import capability to and from HerdMASTER.
- Local area network Version.
- Centralised merge system.



These are just some of the new features that are now available for HerdMASTER.

HerdMASTER is now being used in over 9 countries including Australia, South Africa, Namibia, New Zealand, USA, Canada, Philippines, Thailand, Paraguay and Argentina with local agents in each country.

# HerdMASTER makes you ready for NLIS

As mandatory introduction of NLIS draws closer, there will be a purchasing frenzy in the bush as beef producers gear up with RFID tags, readers and PC software that is able to communicate efficiently with the NLIS database. HerdMASTER has been interfaced with a wide range of RFID tags, readers and the NLIS database and provides a good choice for beef producers seeking NLIS compliance.

HerdMASTER is also being used to collect the appropriate on-farm data for feedlots that are gearing up to meet the new Japanese Agricultural Standard in their exports to Japan. Here HerdMASTER is performing a vital role in assisting Australia meet compliance requirements for its largest and most valuable export market.

HerdMASTER is wired into the future and is the system chosen by Infineon Technologies in its global launch of the PrimaryLink traceability system (see story

page 17). Infineon tags offer read and write capability at almost half the cost of the older generation of RFID tags and it is likely that they will replace the older technology over time.

HerdMASTER has been a run-away success in Southern Africa where Mike Bradfield has made around 400 sales in just over a year (see story p. 4). Registered Brahman breeders in Australia use HerdMASTER extensively and in the last year an impressive 96% of all Brahman BREEDPLAN records were received electronically.

Importantly, there is a strong research and development program behind HerdMASTER making it an ideal choice for beef producers with an eye for the future. HerdMASTER developments will ensure that it continues to perform a key role in collecting data for BREEDPLAN and pedigree programs while being compliant with evolving systems of traceability and food safety.

# Saltbush On-line Support

Last year Saltbush released our on-line support feature (SOS). The feedback since the initial release has been outstanding. With access to such features as updates, tip sheets and latest news 24 hours a day 7 days a week no matter where you are in the world it is only going to get bigger and better. The help and information available via the SOS system is available to all Saltbush Users that have a currently active Support Maintenance Agreement.



“HerdMASTER allows you to customise recording information, that is exclusive to your herd. With Saltbush’s excellent Technical Support back-up, we have a complete package, well worth the investment.”

Donna Angel  
Glengarry Brahman Stud

For further information on HerdMASTER or any Saltbush product: <http://saltbush.une.edu.au> or 1800 111 637

## Wagyu GROUP BREEDPLAN

There has been a concerted effort by the Australian Wagyu Association (AWA) and the staff at ABRI to gather reasonable quality performance data on current and historic Wagyu and Wagyu cross cattle. This has proven to be a difficult exercise as we required both pedigree information (sire, dam, birth date, sex, etc) as well as growth and carcass performance information. While there are many carcass records available on Wagyu derived cattle, relating these to pedigrees and whole of life performance is generally difficult as the ownership of the animals had changed hands or the information was not collected initially as it wasn't considered relevant for the sale of the animal.

With the support of subsidies by the AWA and ABRI, a moderate amount of pedigreed performance data has been collected. Preliminary analysis of this data, which includes 1800 carcass records, indicates large variation in the type of Wagyu used in the Australian industry.

The five sires listed below are at the higher end of the breed for IMF% but have a wide variation in their other EBVs - particularly for carcass weight. The AWA recognises that there are different types of Wagyu and encourages producers to select the type of Wagyu that meets their own breeding objective.

The sire idents have been randomised in the preliminary analysis, pending AGBU estimating Wagyu specific genetic parameters in the first half of 2005 and the release of the first Wagyu GROUP BREEDPLAN EBVs in mid 2005.

Jack Allen

Sire	Bwt	600D	Cwt	Rmp	IMF
06	-1.2	+28	+26	+1.3	+1.8
12	+0.6	+18	+2	-0.8	+2.6
14	-1.7	+10	-14	-1.4	+1.8
15	-0.2	+19	-1	+0.3	+2.7
16	-0.1	+25	+11	-2.6	+3.0
Average	+0.7	+23	+15	+0.6	+0.3

# BreedLeader™ to take Stud Breeders to the Top

A new 3-day course exclusively for stud breeders will arm them with the skills to make greater genetic progress towards their nominated objective. Two leading trainers will deliver this intensive, executive level course. Target businesses will be those 5+ years using BREEDPLAN, and in a breed which has \$Indexes. The course will feature results from Stocktake, a new program developed at AGBU that analyses trends in past BREEDPLAN results and compares the herd with the relevant breed average. BreedLeader will also demonstrate the value of BreedObject as a tool to both

determine the breeding objective of a herd and to develop an index for use in selections.

BreedLeader will be launched in the second half of this year with 10 courses programmed at various locations across Australia in the first 12 months.

For further information about the course please contact:

**Wayne Upton**  
(02) 6773 3141  
wupton@pobox.une.edu.au

## Belmont Red active in composite analysis

The Belmont Red association is encouraging composite cattle breeders with appropriate links, to record on their database and be included in BREEDPLAN runs. This will provide EBVs against the Belmont Red base.

Recent trends in Belmont composites include infusion of Bonsmara and Senepol to increase the gene pool. Significant numbers of these are now on the database along with some Charolais, Brahman, Boran, Tuli, Angus, Limousin, and Adapteur.

To assist this, breed codes have been changed to foundation breed percentages.

# Bob Freer honoured

Bob Freer received the R. W. Vincent Award in 2004 for his outstanding services in the extension of modern beef breeding techniques throughout the Australian beef industry and further afield. The award was made at the 30th Annual Meeting of the Australian Registered Cattle Breeders' Association. It is the cattle seedstock industry's highest award given infrequently and is named after beef industry pioneer, Dick Vincent.

In a forty year career, Bob rose to the rank of Director of Animal Production Advisory Services in NSW Agriculture. For the past 20 years he has been a consultant to the Hereford and Poll Hereford breeds, particularly in their use of BREEDPLAN.

His expertise has been recognised by the MLA who appointed him as Chairman of the group that has developed a National Beef Extension Program. He has also

been the driving force behind the Global Genetic Evaluation of Herefords - a world first for the beef industry (p. 7). Bob will provide mentoring to the young graduates that will be involved in the new National extension program for BREEDPLAN (p. 1).





## Charlotte Fox

Charlotte Fox joined the BREEDPLAN processing team in August, 2004. She has an honours degree in Agriculture from Adelaide University (Roseworthy College). Charlotte has a good practical background in sheep and cattle production from her involvement in family properties. Her enthusiasm and passion for seedstock breeding has seen her elected as Chairperson of the National Angus Youth Programs. An enterprising and versatile person she tried her hand at tennis journalism while a undergraduate at Roseworthy. Her current BREEDPLAN responsibilities include Angus (Southern States), South Devon, Droughtmaster and Charbray.



## Manuela Taboada

Manuela Taboada has recently joined the ABRI team as a graphic designer and Portuguese translator. Manuela was brought up on a cattle ranch in Brazil and has degrees in computer science, industrial design and marketing.

Brazil has huge potential as a market for Australian cattle genetics. Its cattle herd has reached 170 million. In 2003, Brazil used 4.25M straws of beef cattle semen and 1.75M straws of dairy cattle semen. There are also markets for live cattle for breeding and embryos.

Manuela's first job at ABRI was to translate the Brahman Internet Solutions application into Portuguese. This will assist a Brahman delegation that is travelling to Brazil in May, 2005 to engage with local producers and industry officials.

Manuela is also available to breed societies to translate marketing information into Portuguese and create visual images for the Web and in the printed media that will be attractive to a Brazilian audience. As an example of her skills, she has done the desktop publishing for this newsletter, very professionally I hope you agree.

# BREEDPLAN breeds top mobs

**A dramatic disparity in performance between the best and the worst groups of steers has forced a backgrounder in Victoria's Yarra Valley to change buying patterns.**

This follows revelations created by using the NLIS identification system to track performance.

The startling discovery was a difference in daily weight gain of more than one kilogram a day between the best and worst groups.

The backgrounder purchases 1000 Angus steers each year for the property at Yarra Glen, east of Melbourne. They are sorted into grazing groups by weight and rotated through grazing cells and sold off to feedlots as optimum weights are reached.

Prior to NLIS tags, the only identification was by visual ear tags and the task of identifying individual steers at weighing and then sorting the data into groups by origin was too time consuming.

The new tagging system has enabled management to track individual steers through their stay. It was quickly discovered that the best performing steers came from herds concentrating on bulls with BREEDPLAN figures and the worst came from herds using non-BREEDPLAN bulls.

In 2003, lines of steers were bought from 12 different breeders. The top mob gained 1.6 kg/day off grass and the bottom mob averaged 0.6 kg/day.

The top three performing mobs were from properties using BREEDPLAN recorded bulls and the bottom three were from properties with no BREEDPLAN history, prompting the following comment from the backgrounding manager: "We now know where to buy and not to buy our steers and are prepared to pay a serious premium for those that make us money. We will only buy from breeders that do not use BREEDPLAN backed bulls if we absolutely have to and then at a discount".

Extract from Farm Weekly(WA) 20/1/05. While BREEDPLAN figures would make a major share of these differences, there could also be differences caused by nutrition on the breeding properties.

Brian Sundstrom

## Graduate Positions

**ABRI is increasing its team of BREEDPLAN processors and also forming a national extension team. Young graduates with a passion for the beef industry may register their interest in the above positions with**

**Steve Skinner:**

**PHONE: 02 6773 3091**

**EMAIL: steven.skinner@abri.une.edu.au**

**FAX: 02 6772 5376**

**ADDRESS: ABRI, University of New England  
Armidale NSW 2351**

## BREEDPLAN International Beef Recording Scheme

C/- Agricultural Business Research Institute (ABRI)

University of New England, Armidale NSW 2351. **Phone:** +61 (2) 6773 3555 **Fax:** +61 (2) 6772 5376

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