

BREEDPLAN NEWS

INTERNATIONAL BEEF RECORDING SCHEME



Issue 16, March 2006

Anthony Coates Chairs ABRI

At its 31st Board Meeting in November, 2005 Edward Wright AM retired as Chairman of ABRI's Board but will continue as a Director. Edward has been Chair of the Board for a decade during which time the company has quadrupled its team and expanded the market penetration of its key products in both Australia and overseas. Mr Wright, a former President of the Cattle Council of Australia, said that it was a privilege to have chaired such a successful company during its dramatic growth phase.

The incoming Chairman is Mr Anthony Coates of Eidsvold Station in Central Queensland. Anthony is the representative of the Australian Registered Cattle Breeders' Association on the ABRI Board. With his wife, Sally, Anthony has been breeding registered Santa Gertrudis cattle

for the longest period of any stud in Australia. And for most of that time the cattle have been performance recorded. He is also Treasurer of the Santa Gertrudis Breeders Association and is regarded as one of Australia's leading beef cattle judges. Under his guidance, Eidsvold Station cattle have competed in prime cattle and carcass competitions for decades winning championship awards against strong competition.

Anthony has been a Director of ABRI from the day the company was incorporated in January, 1993. For 12 years he has chaired the National Beef Recording Scheme Sub-Committee of ABRI's Board. Anthony was one of the first graduates from UNE's fledgling Rural Science degree in the early 1960's. He brings a scientific background and 40 years of industry experience to the Chairman's role.

Anthony is a highly committed user of BREEDPLAN but stresses that it must be combined with traditional selection for structural traits and breed characteristics in order to make desirable and sustainable improvements in beef herds. He hopes that during his Chairmanship the



Ian Locke recently elected Chairman of the NBRIS sub-committee

BREEDPLAN system will greatly enhance the beef industry's capacity to satisfy global demand for dietary animal protein.

Ian Locke has been elected to the position of Chairman of the NBRIS Sub-committee that was vacated by Anthony Coates in November, 2005. Ian completed his Agricultural Economics degree from UNE in 1988 and worked as a financial consultant for six years before taking up a key role in the Wurruna Poll Hereford Stud at Holbrook. Wurruna has a long history of performance recording and in 1995 was winner of the State and National "Seedstock Producer of the Year".

Ian brings youth, vision and energy to the Chairmanship of the NBRIS Sub-committee. He is an active user of the ABRI technology package of HerdMASTER, BREEDPLAN, BreedObject and Sale Cataloguing on Internet Solutions and can therefore bring a very practical perspective to the Company's endeavours. Ian is committed to using the latest technology to keep Wurruna at the forefront of the seedstock industry and strongly encourages other BREEDPLAN members to take a similar position.



*Anthony Coates
New Chairman, ABRI Board*

Arthur Rickards
Managing Director, ABRI

Editor's Note

This edition of BREEDPLAN news outlines some exciting developments in research and extension. 2006 will be viewed as an innovative year for technologies associated with BREEDPLAN.

- The launch of the Beef CRC for Genetic Technologies sees an exciting future for molecular genetic research in beef cattle. This research does not come cheaply with an estimated budget of AU\$122 million over the next 7 years, but expected research outcomes should give a return to industry many times the investment. The CRC is a collaborative venture between 19 partner organisations from Australia, New Zealand, Korea and the USA. With BREEDPLAN being an International system and a major beneficiary of research from Beef CRCs, it is appropriate that the research is also International.
- New Zealand Meat and Wool, a collaborator in the Beef CRC, have opened a regional office for their extension and genetic staff at the offices of NZ Performance Beef Breeders, the processing hub of BREEDPLAN for all major breeds in NZ.
- The Animal Genetics and Breeding Unit (AGBU) have developed TakeStock, a means for breeders to review their genetic progress over time, focusing on why this is happening and identifying ways that may improve it. TakeStock is a core component of the BreedLeader course being rolled out by Don Nicol and Wayne Upton. BreedLeader is a course for stud breeders who have been performance recording for some time and want to get more from their breeding program.
- Southern Beef Technology Services (SBTS) is being rolled out with two successful workshops already run with many more to follow. Combined with the very successful Tropical Beef Technology Services (TBTS), there are now great opportunities for the Australian cattle industry to learn more about EBVs and how to apply them – both in the stud industry and at the commercial level. These workshops are a great opportunity to learn more about the application of the technology, ask questions and participate in an open and interactive discussion. The workshops are open to all but discounts apply to participating breeds.
- There has been a reasonable amount of activity in the Australian press regarding EBVs and BREEDPLAN. This open discussion amongst the industry can be very beneficial as producers consider the use of EBVs in the commercial environment. There are many sources of useful information on BREEDPLAN and EBVs, including breed societies, ABRI, and beef specialists in state DPI's. We also strongly encourage you to attend the SBTS and TBTS workshops being run throughout Australia.
- This edition profiles the eight talented new staff that have joined the ABRI team, giving us a huge boost in fire power.

Jack Allen
Technical Director, ABRI



Peter Parnell, NSW DPI, Independent Chairman of the BREEDPLAN Technical Liaison Group (BTLG).

BTLG guides BREEDPLAN development

BREEDPLAN participants will be comforted to know that the ongoing technical development of the BREEDPLAN system is under the watchful eye of a group of breed society technical representatives, extension staff, AGBU scientists and ABRI staff. The BREEDPLAN Technical Liaison Group (BTLG) meets four times per year and reviews new technical features before they are incorporated into BREEDPLAN. The BTLG group also discusses any technical problems or difficulties experienced by BREEDPLAN users. The BTLG was established in the mid 1990s under the leadership of Brian Sundstrom. Following Brian's retirement in 2005, the BTLG is now chaired by Dr Peter Parnell from NSW DPI. For any enquiries about the BTLG contact Peter on 02 6770 1801, email: peter.parnell@dpi.nsw.gov.au

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Southern Beef Technology Services (SBTS)

A new genetics extension program has been launched in January 2006 known as Southern Beef Technology Services (SBTS). SBTS is a joint initiative of Meat & Livestock Australia, the Agricultural Business Research Institute and 14 Breed Societies that run the majority of their cattle in Southern Australia namely Hereford, Poll Hereford, Murray Grey, Shorthorn, Charolais, Limousin, Simmental, Red Angus, Wagyu, South Devon, Devon, Red Poll, Blonde d'Aquitaine and Salers.



ABRI Managing Director Dr Arthur Rickards said "SBTS will provide the members of participating breed societies with technical support that enables them to maximise their understanding and use of the different genetic technologies that are available, in particular BREEDPLAN, BreedObject, Internet Solutions and the soon to be released TakeStock genetic auditing tool".

Within the SBTS project, a series of 64 workshops (16 per year) will be held to give all members of participating societies and other interested parties the opportunity for tuition in the fundamentals of the different genetic technologies that are available. Details regarding the first of these workshops are included on page 19 in this edition of BREEDPLAN News.

Following each of the workshops, two days of on farm visits are planned in each region. The on farm visits will provide a valuable follow up opportunity for beef producers to gain advice regarding specific issues that they may have.

Technical support will also be provided to beef producers, Breed Societies and other service providers on an ongoing basis. In particular, the team will work closely with the Technical Committees of participating breeds.

Dr Rickards stressed that importantly "SBTS will act as a valuable feedback mechanism to the BREEDPLAN development team in the Animal Genetics and Breeding Unit and the operational team in ABRI".

The services offered by SBTS will be delivered by a team of four technical officers – Benita Davis, Christian Duff, Michael Beattie & Andrew Byrne. All four have both a rural background and significant experience regarding the processing of BREEDPLAN performance data, the running of GROUP BREEDPLAN evaluations, the technical components of BREEDPLAN and related technologies, the extension of genetic technologies, the operation of modern Breed Societies, and the services offered within Internet Solutions.

They will be supported by experienced beef cattle consultants including Bob Freer, Alex McDonald & Peter Speers. All possess over 30 years experience in the beef industry and will provide an invaluable mentoring program that will aid and assist the SBTS project. (Six of this seven-person team are in the photo).

Dr Rickards said that the SBTS Project would complement the very successful Tropical Beef Technology Services Project in Northern Australia. In combination the two projects will give cattle breeders access to a well co-ordinated National technical support service.

The overall aim of SBTS and TBTS is to maximise the rate of genetic progress within Australia's beef industry. BREEDPLAN has been identified as the world leading genetic evaluation system for beef cattle, but we need to ensure that our industry is well informed so that it can make the best possible use of this technology.



For further information regarding Southern Beef Technology Services, please contact:

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University of New England,
ARMIDALE NSW 2351

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Web: http://sbts.une.edu.au



Matias Suarez

Matias commenced work at ABRI in August 2005 and has recently completed a Masters of Science at UNE, majoring in quantitative genetics. Matias has demonstrated his passion for cattle breeding and genetics by earlier completing a Masters of Agriculture at UNE, majoring in animal production, following his Bachelor of Veterinary Science degree that he received from the University of Buenos Aires, Argentina.

Matias has gained considerable experience in the Argentinian beef industry. He spent 5 years working as a veterinary consultant and farm manager, with direct responsibility for more than 2,000 cows. These on-farm skills and his language skills (Matias' native language is Spanish and he has excellent skills in English and Portuguese) have ensured that Matias has become a valuable member of the team servicing ABRI's clients in South America.

Matias's current responsibilities at ABRI are for the BREEDPLAN processing for Brahman and Santa Gertrudis, as well as assisting with research and development on some datasets.



MLA provides support to the development and extension of a range of BREEDPLAN technologies.

CRC for Beef Genetic Technologies officially launched

The Cooperative Research Centre (CRC) for Beef Genetic Technologies was officially launched in Armidale on 13th December, 2005 by Mr Hugh Morgan AC, a Hereford breeder from Victoria and immediate past President of the Business Council of Australia.

The Beef CRC is Australia's largest beef research initiative, developed in partnership by the Australian beef industry (Cattle Council of Australia, Meat and Livestock Australia, Australian Lot Feeders' Association, corporate and individual beef producers) and prestigious national and international scientific institutions. The CRC has its headquarters at the University of New England, which is also the CRC's lead educational institution. The Centre is a collaborative venture between 19 partner organizations from Australia, New Zealand, Korea and the USA, with associate partners from Northern Ireland, the Irish Republic, France and South Africa. Centre research is focused on four beef industry priority issues (high quality beef; feed efficiency and maternal productivity; adaptation and cattle welfare; and improved reproductive performance) to capture unique opportunities for Australia through world-class gene discovery and gene expression research and accelerated adoption of beef industry technologies to improve profitability, productivity, animal welfare and responsible resource use of Australian beef businesses. Total cash and in-kind resources for the Beef CRC over the period 2005-2012 exceed \$122 million.

The Beef CRC's research, education and commercialisation strategies are targeting an increase in gross revenue of the Australian beef industry estimated at \$179 million per annum from 2012, with total expected benefits of the new CRC research being more than \$2 billion over 25 years. The centre will use emerging genetic technologies to:

- Improve the capacity to deliver high quality beef to Australia's 110 global markets using cattle of known genetic merit for exacting specifications, without compromising animal welfare or the environment.
- Enhance beef yield and herd reproductive efficiency, improve efficiency of resource use, reduce production costs, minimise methane emissions and avoid chemical and antibiotic residues through precise application of knowledge about the genes controlling these attributes in cattle, their rumen microorganisms and in parasites that affect cattle productivity.
- Ensure Australia is the number one supplier of beef to meet the growing demand by neighbouring Asian countries to 2020.

Research outcomes will provide Australia with the ability to consistently produce beef products of exacting specifications to meet the needs of domestic consumers and those of the 110 countries to which we export.

The new CRC has a three-pronged approach to achieving beef industry outcomes ...

Gene discovery: finding genes that impact on economically important attributes in cattle and developing diagnostic tests for them (e.g. GeneSTAR Marbling and Tenderness). At this stage, because there are so few DNA tests for each trait, it is not recommended that breeding decisions be based on DNA analysis alone. DNA



Mr Hugh Morgan AC (left) officially launches the CRC for Beef Genetic Technologies, with Mr Guy Fitzhardinge, Chairman of the Beef CRC Board.

results should be used with information such as EBVs derived from measurements of the trait. However, the new Beef CRC aims to identify packages of 8-10 genes for each hard-to-measure, economically very important trait (tenderness, retail beef yield, marbling, feed efficiency, age at puberty, cow reproduction rate, resistance to ticks) that together will account for 50-80% of the genetic variation for that trait, meaning the combined DNA tests will become more useful as a breeding or a drafting tool. As a result, seedstock breeders will be able to readily select breeding cattle with favourable forms of the genes or cull those cattle with unfavourable forms of the genes. Commercial producers, feedlotter and beef processors will also be able to cost-effectively use the tests to identify cattle that best meet market specifications under particular production systems.

Gene expression: is aimed at understanding the function and expression of the genes associated with economically important traits and identifying non-genetic treatments (e.g. management practices, modified diets, water medications, vaccines) that can be used to 'switch on' favourable genes or 'switch off' unfavourable genes so that cattle can be individually managed to better comply with market specifications. Note: This will be achieved by selecting cattle for specific markets based on the genes they carry, not through artificial modification of their genomes.

Accelerated Adoption: aims to increase the level of adoption by beef industry end-users and reduce the 'Research to Adoption' cycle from 5 years to 2 years. Economic analyses indicate that 30% of the \$179 million p.a. estimated value of the new Beef CRC derives from increasing the rate of uptake of CRC technologies by industry. Accelerated Adoption will be achieved by the use of innovative participative and partnership

processes based on credible industry profitability and productivity benchmarks. Under this model, each CRC research program will achieve its planned outcomes only if it also achieves Accelerated Adoption of the technologies it develops. The onus is therefore on the CRC scientists and their commercial partners in those research programs to fully engage with beef industry end-users to ensure commercialisation and utilisation of their

research outputs in a way that has never before been achieved.

More information: Beef CRC website (www.beef.crc.org.au) or Warwick Fraser, Beef CRC, Phone 02 6773 3795; Email: Warwick.Fraser@une.edu.au

Heather Burrows
CEO, CRC for Beef
Genetic Technologies

Internet solutions continues growth

Calendar year 2005 has seen ABRI's Internet Solutions range of applications continue the strong usage growth of previous years. Overall usage of the various systems across all species was up 45% on 2004 levels, to a massive 18.29 million page enquiries for the year. January 2006 has seen this trend continue, with an all-time record of 1.87 million transactions recorded for the month. We expect to exceed two million page enquiries per month by March, 2006.

The high-volume users of the service are spread across a range of livestock species, with Beef cattle (BREEDPLAN) systems leading the way, generating 56% of the overall usage.

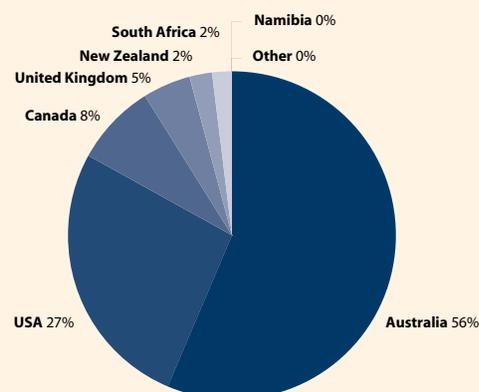
With the exception of the American Hereford database (hosted in Kansas City, but software developed and supported by ABRI), all databases reside at ABRI's headquarters in Armidale Australia. From this central computer facility, web-based livestock improvement services are delivered to a range of overseas countries.

Internet Solutions provides a range of easy-to-use services including:

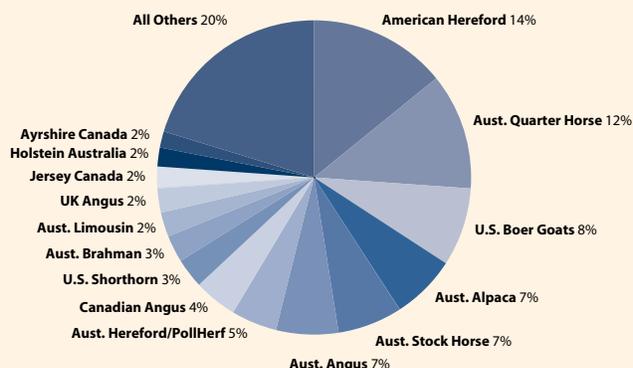
- Pedigrees
- Breeding Values (EBVs , EPDs)
- Sales and Semen Catalogues
- BreedObject Integration
- Breeder/Member Searches
- Mating Predictor
- Animal Registrations
- Performance data entry

You can access Internet Solutions databases directly from your Breed Association website, or alternatively use the 'Search Facilities' link from the BREEDPLAN home page <http://breedplan.une.edu.au/>

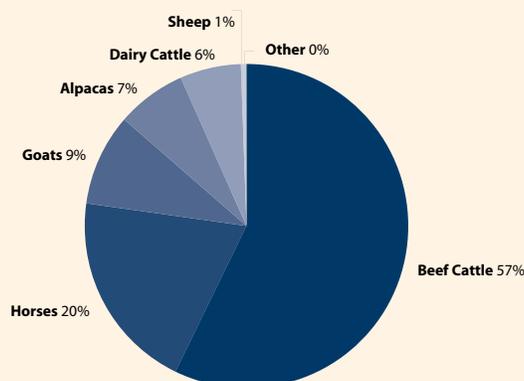
2005 Internet Solutions - By Country



2005 Internet Solutions - Largest Users



2005 Internet Solutions - By Species



VICTORIAN FOCUS

What's happening in Victoria



The latest Victorian Beef Cattle Research

A study on the effect of genetics on fat composition has produced some interesting results, indicating that there may be scope to utilize genetic differences to produce "healthier beef".

Consumers have become more health conscious and are increasingly concerned about reducing intake of saturated fats, due to evidence that they tend to raise plasma cholesterol.

A research project led by John Graham from the Department of Primary Industries (DPI) found significant differences in breed variation in fatty acids of intramuscular fat and to a lesser extent subcutaneous fat. Although differences reported were small, it seems that there may be scope to utilize these genetic differences to produce meat with more desirable fatty acid characteristics. Heritability (the proportion of the variation in performance that is due to genetics and that is passed on to offspring) estimates of 0.4 have been reported for mono-unsaturated fats.

The leaner, later maturing breeds appeared to have more desirable fatty acid

profiles, therefore it seems that selection for "healthier" fatty acid profiles would need to be balanced with consideration of aspects of eating quality.

Further research planned for 2006 includes a sire analysis of more than one thousand progeny derived from mating Angus and Hereford cows to Angus, Hereford, Limousin and Simmental bulls.

Perhaps in the future gene marker research may make it possible to identify and use beef cattle that have more desirable fatty acid profiles.

New Beef Cattle Course "Breeders for Profit"

The Victorian DPI has developed a new two day course called "Breeders for Profit". The objective of the course is "Improving the profitability of a commercial cattle breeding operation through effective and efficient cow and

heifer selection". The course includes both technical sessions and hands on exercises in the yards. During the course participants develop a Female Selection Plan for their enterprise. The course technical component covers understanding female traits and includes the use of herd performance records and female Estimated Breeding Values as selection tools. Four workshops have been scheduled in Victoria in 2006, with day one in late May and day two in early November. The workshops are designed for groups of about 15 producers and will be delivered by Bob Dent, Angus Australia, and Emma Weatherly, DPI. All beef cattle producers are welcome.

Improving Temperament

There are a number of ways that temperament can impact on beef enterprise profitability. Poor temperament can:

- Decrease meat quality
- Increase the risk of injury to both cattle and handlers
- Lower feedlot performance (growth, feed efficiency and sickness levels); and
- Increase production costs by increasing handling time and the requirement for better handling facilities.

Short-term training may change behaviour in familiar environments, however it does not change underlying temperament which will still be exhibited in unfamiliar environments; nor does it change the genes passed on to progeny.



Research cattle at Hamilton, Vic.

Limousin breeders have been scoring docility since 1995. They have shown that good genetic progress can be achieved by measuring docility at weaning time and using sires with favourable EBVs for docility. Kath Donoghue of the Animal Genetics and Breeding Unit has recently calculated a heritability of 0.38 for docility in Limousin cattle.

Following a survey of members and a study of how a docility EBV has worked in the Limousin breed, the Angus Australia board has recently decided to introduce an EBV for docility.

Temperament is cheap and easy to measure. The Limousin Society strongly encourages its members to score the docility of their calves around weaning time using a crush or yard test. Angus Australia is encouraging members to submit both crush scores and 'flight time' measurements. Flight time is an electronic measure of the time taken for an animal to cover a short distance, about 1.6 metres, after leaving the crush. Animals with poorer temperament tend to have a lower 'flight time' than more docile animals. Researcher Damien Halloway has recently completed a study scoring 494 Angus calves with four measurements for docility. His research indicates that both 'crush score' and 'flight time' observations are repeatable and correlated.

The Beef Cooperative Research Centre has established a loan system for flight time testing equipment. Equipment has recently arrived at the Department of Primary Industries (DPI) Hamilton and is available to Victorian producers to borrow at no cost except for return freight to Hamilton.

For further information or to borrow the flight time equipment contact Emma Weatherly on 0408 561 897 or emma.weatherly@dpi.vic.gov.au.

Emma Weatherly
Beef Industry Development Officer,
Department of Primary
Industries, Hamilton

Established NZ service culture gets the big tick

The beginning of a New Year heralded the opening of a regional office for extension staff at Meat & Wool New Zealand. Hardly surprising then that the preferred location for this was under the already successful banner of New Zealand Performance Beef Breeders Ltd. (NZPBB).



From left to right. Meat & Wool Regional and Genetics team Georgie Walker, Liz Russell, Russell Priest, and Rex Williams co-locate to PBB in Feilding.

Four regional staff members for Meat & Wool NZ have integrated their extension activities to the Feilding premise of NZPBB providing farmers with a wide range of service delivery options.

Rex Williams of Meat & Wool's Economic Service works with farmers to collect and analyse production and financial forecasting information. As one of Meat & Wool New Zealand's flagship services the Economic Service has been active in this role in New Zealand for over 50 years. Liz Russell is the Regional Manager who oversees a lot of the project work currently being undertaken on-farm in the region which includes the very successful monitor farm programs where farmers learn on-farm from other farmers. Liz also works closely with the Sheep & Beef Councils.

Russell Priest, the Beef Genetics Co-ordinator whose primary role is to develop and disseminate beef genetic information for use by the beef industry stakeholders. Georgie Walker joins Russell in the genetics team and has a

similar role in the sheep industry. Georgie offers support to the Senior Adviser of SIL (Sheep Improvement Ltd) and contracted extension staff in the use, and development of the SIL database and genetic evaluation system.

Meat & Wool's Genetics Manager, Richard Wakelin says "that the decision of Meat & Wool New Zealand to co-locate its regional activities within Performance Beef Breeders was to leverage off the established service culture and extensive rural networks of NZPBB".

Murray Meads, NZPBB General Manager commented "that the integration of 4 new team members from Meat & Wool into the culture of the company has been a welcome move. PBB's service delivery ethic fits right along side the extension aims of Meat & Wool. Meat & Wool and PBB work on several joint venture projects together so it makes perfect sense that a lot of this can be efficiently co-ordinated from the one administration base".

BREEDPLAN IN AFRICA

BREEDPLAN: An indispensable tool in Southern Africa



Mecki Schneider was voted “Namibian Master Farmer of the Year for 2000” and is a top three finalist for the 2005 Landbouweekblad/BREEDPLAN producer of the year competition. Mecki also serves on the Namibian Meat Board and various other industry bodies. Mecki and Brigette run a seedstock herd of over three hundred cows together with their commercial herd in Northern Namibia.

Long gone were the days when the only criteria in cattle selection were “beautiful” cattle and pedigrees. The intensive use of ratios (indices) for production values of the past decade has also ground to a halt. With the introduction of BREEDPLAN in Namibia a new technological “quantum leap” has been made and breeders who have been involved in weighing and taking measurements with reliable record keeping over longer periods are now rewarded.

With the easy, worldwide use of the Internet and electronic communication the use of “estimated breeding values” (EBVs) has become a “must” for any breeder in Namibia. In Namibia, a relatively small country on the African west-coast (north of South Africa), the impact of EBVs is strongly gaining momentum with commercial and communal cattle farmers. BREEDPLAN has opened up a whole new field of not only national but also international evaluations of the best genetics available for your particular environment.

For us at OKABRA Brahman, this is the real beauty of BREEDPLAN; **Do not always target the so called trait leaders for every trait but consider your environment and make a weighted choice between birth, fertility, growth and carcass EBVs amongst other selection criteria.** Every stud herd today should have a clear vision of its breeding objectives in terms of EBVs –

create a window for each trait desirable for your environment and market. Assess the market requirements of your commercial (and in our case also the communal) farmer and be in direct touch with them – we run our Brahman stud cattle (except for the short period of mating) together with our commercial cattle, which still is our core business. In other words: keep close to the client base!

The OKABRA Brahman Stud, from the northern part of Namibia, has established itself since its inception in 1987 as one of the leading and one of the largest Brahman studs in Southern Africa. The Schneider family has been in extensive cattle ranching as its core business since 1913 at Okamutombe near Grootfontein and thus brings along a successful history of sustainable beef production. We aim to be at the forefront of modern stud breeding techniques and market requirements: be it genetic trait evaluations, meat tenderness as well as other genetic markers, DNA recording, artificial insemination (and embryo-transfers) for new superior genetics and better national “linkages” (a very important aspect in stud breeding), annual ultra-sonic scanning of progeny to determine carcass quality, etc.

Of course the evaluation of structural soundness and the breeding of well adapted, hardy and productive cattle for extensive cattle breeding, while keeping our valuable export markets to South Africa and the European Union in mind, is

of utmost importance! Our cattle have been meticulously selected and reared from the beginning with scientific selection methods and performance recording schemes. However, BREEDPLAN has opened up a whole new concept in beef cattle breeding.

Namibia is the most arid country in sub-Saharan Africa with a very erratic annual rainfall pattern ranging from 180 mm (in 2002/3) to about 500 mm. Further south even less rainfall can be expected. In such harsh, erratic and unfavorable climatic conditions, where grazing is the primary source of fodder (apart from a lick supplement) we may have a different approach to selecting with EBVs compared to many other breeders in other parts of the world. In our environment for example, high growth animals (cows) are not preferred, although our live weaner export market to South African feedlots would prefer this – but you have to keep your replacement heifers in mind. In fact, this to us is the crux of using EBVs – they are made available and every producer can select for his or her specific preferences.

The first EBV I consider is for birth weight. In Namibia where most farmers do not monitor their cows during calving, birth weight is very important. My clients want easy calvers in this harsh environment and this is their most important selection trait. We have seen regular calving difficulties with some



farmers, because no attention was paid to birth weight EBVs. The second factor to consider is your clients' production system as well as the production environment. High growth figures are not always best suited for an environment where grazing is the limiting factor as this will often reflect in the mature cow weight EBVs. Medium size cows can cope better a harsh environment extensive cattle-farming system where they have to walk long distances between grazing and water points. If however farmers produce slaughter cattle (at 2 to 2½ years at marketing age) then an average or slightly above average EBV for growth is recommended – these are the cattle that have a better constitution and have a better carcass grading for the European export market resulting in a profit. The EBVs for carcass traits like rib fat, rump fat, eye-muscle area, intramuscular fat % and retail beef yield % are other traits that gain momentum for export market requirements of beef cuts as more data becomes available. The third factor to consider is the accuracy of the EBV. When buying or selling bulls I prefer accuracies above 70%. I then know that the bull has enough information so that preferred choices can be made.

Some of our clients are from the communal areas or from very harsh sandy environments. Their profitability lies in the reconception of the cow herd (low mature cow weight EBVs) under marginal grazing environments and not so much on growth EBVs.

As seedstock breeders we place our own emphasis on certain criteria:

1. We always have to keep our bull market in mind using the above 3 criteria. We have been selecting animals using the above criteria and over an 18-year period the results speak for themselves. Our herd has had a significant decrease in the average EBV for birth weight to below breed average and has had a gradual increase in growth EBVs over the same period to an above breed average value.

Our total herd is thus what is called a “curve bender herd”. Most of the recent stud bulls used extensively have low birth EBVs and good growth as well.

2. When we buy stud sires or introduce new semen, the number of progeny analyzed and the number of herds in which the bull was used is also of importance. If it is a young bull then its sire or dam must fulfill these criteria. Our herd linkage is one of the highest in the Southern African Brahman breed (and the highest for a Namibian stud). Important to us is the use of artificial insemination annually, even on a limited scale, with semen of bulls complying with the described requirements. This ensures that you are always optimally linked to the national database and thereby identify the best bulls. To plan for the long term we are importing semen from various countries of the best identified bulls to suit our needs – in this way ensuring a better international future data linkage.

3. For my particular bull market, namely, where my sale bulls have to produce crossbred cattle for beef production (RSA feedlots or European beef cuts), the milk EBV is of secondary importance. We are monitoring the herd average, which is slightly below breed average but of no concern due to the bull market we supply. However, we will keep an eye on this to ensure that clients are not penalized in years to come.

4. As a stud breeder it is of utmost importance that you monitor the genetic trend of all traits of your herd to see where you are heading and to select new genetic material accordingly. The breeding objectives as far as EBVs are concerned have to be evaluated annually to contribute positively to the economic and production enterprise of clients.

5. The next estimated breeding value we are in the process of assessing is days-to-calving. Historically we have put a lot of emphasis on fertility and thus expect good days to calving EBVs when the analysis is done later this year. In future we look forward to a net-feed-intake EBV as this is certainly of utmost importance in an environment where natural grazing is your limiting production factor. However, we still need to be convinced that a positive correlation exists between grass and grain fed beef.

In summary, producers in Southern Africa are increasingly using EBVs for selection of herd sires for all cattle breeds – apart from the production data in terms of growth EBVs seedstock breeders will increasingly have to pay more attention to carcass traits (and associated EBVs) and genetic markers identifying sought after properties of beef cuts!

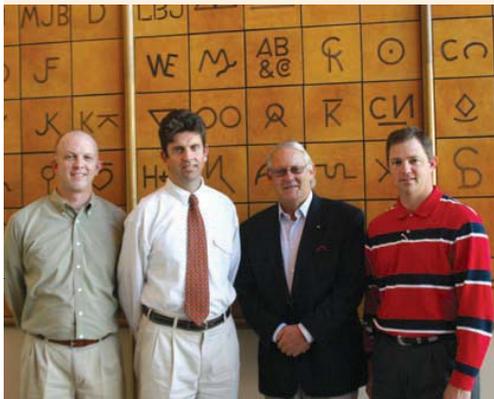


Mecki and Brigitte Schneider,
OKABRA Brahman Stud, NAMIBIA
Webpage: www.agra.com.na/okabra/index.htm

American Hereford hits internet record

The American Hereford Association in Kansas City is Australia's largest corporate user in the USA. It processes about 70,000 registrations per year and a similar number of weaning weights through BREEDPLAN.

Arthur Rickards and Christopher de Crespigny visited AHA in November, 2005 to discuss a wide range of issues including enhancements to Internet Solutions and the development of a supply management system for the highly successful Hereford Verified product. In January, 2006 the AHA posted a world record for use of ABRI's Internet Solutions with 357,459 page enquiries in a month – up 40% on the AHA's usage in January 2005!



Stacy Sanders (AHA's Director of Computer Records), Christopher de Crespigny (ABRI), Arthur Rickards (ABRI) and Craig Huffhines (AHA's Executive Vice President) at the brands wall of the AHA office.



Canadian Angus have signed with ABRI for their third five-year term. CAA registrations have more than doubled since adopting the ABRI system ten years ago. CEO Doug Fee and Maureen Armitage are all smiles during the ABRI visit.

“Doc” Hunsley recognised

In November, 2005 Dr Roger Hunsley was the recipient of the US livestock industry's highest award. A portrait of the “Doc” was hung in the Sirloin and Saddle Club in Louisville, Kentucky. Arthur Rickards attended the presentation and was invited to give the citation on Dr Hunsley's international achievements. The following is an extract from that address.

Though his Breeder Schools in Australia, New Zealand, Canada and Brazil, Roger Hunsley has become a legend in the international beef industry.

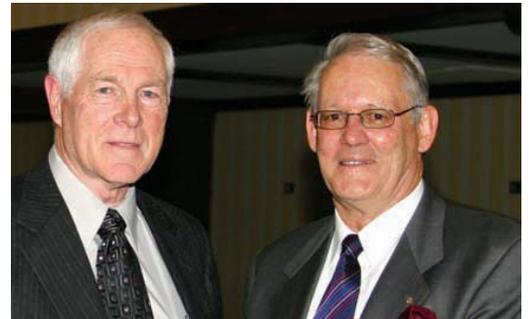
Dr Keith Hammond, formerly Director of AGBU, recognised that most Australian academics have little practical livestock expertise. In Dr Hunsley he saw the opportunity to connect the research of the University at Armidale with the practical requirements of the livestock industry.

Dr Hunsley first came to Armidale in 1979 and returned in 1981 on sabbatical with his wonderful family and the legend began. At the time, Australia's cattle were too small, too fat and too inefficient. In Roger's Breeders Schools, that were a sell out every time, he preached the virtues of growthy, lean and well muscled cattle that were structurally correct. I do not exaggerate when I say that the Doc changed the Australian cattle industry forever by his commonsense message to our leading cattle breeders.

This meant that when Keith Hammond's group rolled out the BREEDPLAN multi-trait genetic evaluation system in 1985 it was adopted enthusiastically because the Doc had already bridged the gap between science and practice. This exercise was repeated with great success in New Zealand and Canada.

In the early 1980's Australia opened its doors for the first time in 50 years to North American live cattle. ABRI was the agent for many plane loads of seedstock that came to Australia.

This included some elite Shorthorn genetics which were picked out by the Doc and have gone to make substantial contributions to the Australian industry. More importantly, the importations have created the genetic linkage between the Australian and US Shorthorn populations which will under-pin any further global



Roger Hunsley and Arthur Rickards

genetic evaluation of the Shorthorn breed.

In 1989, ABRI was demonstrating the new BREEDPLAN International software at the Denver Stock Show. The Doc said to me, “You know, all the Red breeds should really get together to make maximum progress”. It didn't happen then but it is now starting to happen – 16 years later. The Doc's vision has once again been vindicated.

Through two decades the Doc has judged cattle in most of the world's leading cattle breeding countries – and in doing so he has brought great credit both to himself and to the American cattle breeding industry.

In the Autumn of his career the Doc has taken on the greatest challenge of all working with the 170 million head cattle herd of Brazil. His recent workshop there was not about polite conversation – it was about radical change in breeding objectives – more akin to a revolution. No wonder they fondly call Doc the “Che Guevara of the Brazilian cattle industry”.

Doc – the hundreds of cattle breeders worldwide who know you and love you will be delighted that you have received your industry's most prestigious award.

We salute you Dr Roger Hunsley as a visionary, as a legend in the World's beef cattle industry and as a truly great American.

UK Scanner Training Course a success in UK

As BREEDPLAN attracts users in the United Kingdom, seedstock producers have become interested in the opportunities provided by real time ultrasound scanning for carcass traits.

In November 2005 a course was organized to introduce prospective scanners to the equipment and techniques associated with collecting measurement of fat depth, eye muscle area and marbling (percent intra-muscular fat) in UK seedstock herds.

The four day course, conducted at Moffat in Southern Scotland, attracted 12 participants from Scotland, England, Ireland and Wales. Five PIE Aquila® machines (similar to those currently used in Australia, New Zealand, South America and Southern Africa) were made available to the scanners courtesy of PIE Data UK, with facilities and animals for the course provided by Andy Ryder of Moffat Farms, Moffat.

The course was organized by the Aberdeen Angus Cattle Society and conducted by Matt Wolcott (Animal Genetics and Breeding Unit, Armidale, Australia). The course provided a theoretical component which included discussion of scanning techniques, important considerations when collecting data for BREEDPLAN, understanding EBVs, EBV accuracies, and the importance of accurate contemporary groups. The scanners were also able to gain significant hands-on experience working with a wide range of animals.

Following the course, 2 operators were granted provisional accreditation to submit scanned measurements for calculation of BREEDPLAN EBVs after

participating in an accreditation test. Both operators were accredited for all traits (P8 and Rib fat depth, eye muscle area and marbling).

A follow-up training will be conducted in March 2006 followed by a full accreditation test which will require animals to be scanned twice (to assess operator repeatability) and then slaughtered so carcass traits can be measured and operator accuracy tested. The same standards will be applied in the UK as have been put in place in Australia and other countries submitting scanned data to BREEDPLAN.



Scanner training at Moffat, UK

ARGENTINA Beef Tour to Armidale – Oct'05

Last Spring, a delegation of 40 leading Cattle Producers, Veterinarians, Livestock Agents and Government Officials from Argentina spent a week in Armidale attending lectures and field visits organized by ABRI and ANF.

The week long visit involved informative sessions on the latest technology available to Australian Beef Producers. The topics ranged from Selection Index and MSA Grading through to the global marketing of Australian genetics which, incidentally, Argentinean breeders have been sourcing for many years and a market that has the potential for exponential growth.

The highlight for many was a generous invitation by UNE's Chancellor – John Cassidy to visit his property "Merilba" for an informative tour viewing his prized South Devon cattle, the latest ultrasound scanning techniques, handling SRS Merino clip and the all important demonstration of the trusty "kelpie".

The day ended with a memorable dinner at the homestead drinking "Vino" produced on the property and eating "Merilba" beef cooked on a "Australian Parrillo" that for many, made them feel right at home (in Argentina)!

Argentine visit – Dec'05

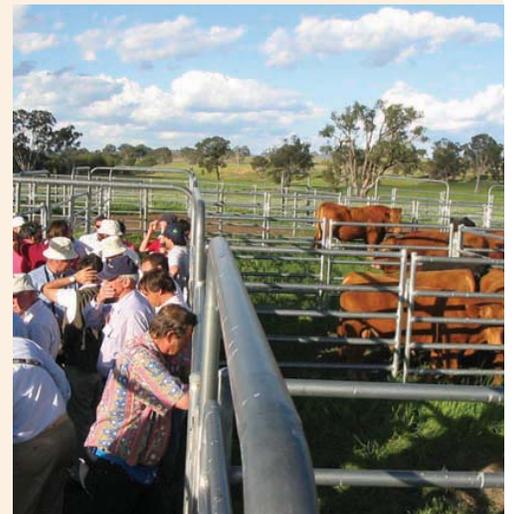
Matias Suarez visited Argentina for a series of meetings with existing and potential ABRI clients. These included Grupo BREEDPLAN Angus Argentino, Asociación Argentina de Criadores de Bonsmara, LIAG and some breeders from the CREA Cabañas Group among others.

Matias presented an overview of BREEDPLAN with emphasis in data collection issues and the theory behind Selection Indices. Discussions with Grupo BREEDPLAN Angus Argentino reviewed the parameters used in their current BreedObject Pampas \$index, with the possibility of developing an additional \$index focusing on the Argentinean "Export markets".

HerdMASTER Español

Matias' trip coincided with the timely release of Saltbush's HerdMASTER (Spanish version) and he was able to demonstrate the features this herd recording program has to offer. With the assistance of Maria Calafé and Máximo Lichtschein, they were able to cover a vast array of features that many Australians have taken for granted.

For Argentinean breeders this software will help bridge the gap between the producer and tools like BREEDPLAN to assist in improving their breeding objectives.



Discussion on bull selection with John Cassidy - Merilba

Recent outbreaks of Foot and Mouth disease in the Mécursor and the ever increasing political issues makes beef production a challenge in Argentina. There is growing interest from Latin American breeders to forge closer relations with countries like Australia because of the expertise and beef improvement technology we have to offer.

Meat & Wool New Zealand and Massey University Net Feed Intake Trial

Meat & Wool New Zealand has funded a four year feed efficiency trial conducted at Massey University by Associate Professor Steve Morris. The objectives of the trial were:



- To validate, under N.Z. pastoral conditions, Breedplan estimated breeding values (EBVs) for net feed intake (NFI) on Australian bulls tested for NFI under feedlot conditions.
- To investigate whether there are any negative effects by selecting for NFI on other major production and meat quality traits, namely growth (600-day weight), milking ability (200-day milk), fertility and meat characteristics.
- To determine if selection for NFI is beneficial under N.Z. pastoral conditions and if so to recommend a cost-effective method of measuring and commercialising it.

Angus progeny were generated from sires selected for either high (top 10% of breed) or low (bottom 10% of breed) for 600-day weight, milk production (200-day milk) and NFI. At least four bulls were used to represent each high or low EBV within each selection line and they were mated to at least 25 cows each using a synchronised oestrus and A.I. programme. The progeny were generated on four industry farms using two and three year old cows. Progeny were transferred to Massey University at weaning to generate feed intake and production data.

The steer progeny from the growth and milk-production-selection lines were split into two groups and managed to grow along fast and slow pathways. Slaughter was delayed due to drought, resulting in the 42 steers in the fast-growing group being slaughtered at 28 months of age and the slower group at 29 months. The 56 steers from the high and low feed-efficiency lines were slaughtered at 27 months.

The feed-efficiency line steers were weighed (unfasted) monthly and had feed intake measured on four occasions using the n-alkane technique (the main method used in the trial to assess group average feed intakes). At slaughter, carcass measurements (carcass weight, dressing percentage, live weight, carcass length, length of leg, fat depth, eye muscle area, intramuscular fat and 3-cut weight) were taken. Meat quality characteristics measured on a cube roll sample collected from each carcass included shear force values, meat colour and water-holding capacity as an indicator of juiciness. Sensory evaluations were carried out on steaks from the cube rolls of a subset of the high and low feed efficiency lines. Two steaks from each animal were evaluated by a taste panel.

Heifer calves from the growth and milk lines were run together as one mob from weaning through to mating, as were the high and the low feed-efficiency lines. Unfasted live weights were recorded monthly. The heifers were mated at 15 months of age with yearling Angus bulls (selected for below breed average birth weight EBVs) and calved at 2 years of age. At birth, calves were identified to their dams, weighed and then reweighed at weaning. Two calf crops (2003 and 2004) were recorded for growth and milk production but only one (2004) for feed efficiency.

Feed intake measurements on the heifers were made on three occasions using the n-alkane technique and on two occasions using a modified before-and-after grazing technique. This latter technique was used only on the growth and milk-production-heifer-selection lines as it is considered

less accurate than the n-alkane method and therefore was not used on heifers from the feed-efficiency-selection lines.

Estimates of milk production (using the weigh-nurse-weigh method) were taken at days 50, 100 and 150 of first lactation, for the feed-efficiency selection lines and for first or second lactations for the growth and milk-selection lines.

Conclusions:

1. Comparison of steers from the growth and milk-selection lines.

On average the growth lines tended to have heavier live weights and hence carcass weights, while the low-milk lines had the lightest weights. Despite these differences in live weight no differences in feed intake were measured between the four selection lines. Based on the carcass measurements taken on the steers there were few clear differences in carcass or meat quality characteristics between the high and low-growth and high and low-milk lines. There were however suggestions that steers from the low-milk line produced longer carcasses and slightly more tender meat with a little more intramuscular fat.

2. Comparison of heifers from the growth and milk-selection lines.

The growth-selection line heifers were heavier on average but did not consume more feed than the milk-selection lines. Those heifers born to dams selected for low milk consumed the most feed. Heifers generated from low-milk lines also produced the lightest calves at weaning.

3. Comparison of steers from high and low feed-efficiency-selection lines.

The more feed-efficient (low Net Feed Intake EBVs) steers grew faster to reach heavier final live weights and carcass weights than the less feed-efficient (high Net Feed Intake EBVs) steers. They achieved this superior performance without any measurable increase in feed intake. This suggests they were more efficient at converting grass into live weight and ultimately carcass weight gain. An evaluation of the carcass and meat quality characteristics of steers from the feed-efficiency lines revealed no clear differences in characteristics associated with carcass composition or shape at a defined carcass weight, but did suggest that the eating quality of beef from the low-efficiency line was somewhat better.

4. Comparison of heifers from high and low feed-efficiency selection lines.

The evaluation of heifers from these selection lines indicated that the high efficiency heifers (generated from bulls with low Net Feed Intake EBVs) were heavier and grew faster than the low efficiency heifers (generated from bulls with high Net Feed Intake EBVs). This difference in live weight was generated with no increase in feed intake and there were no differences in pregnancy rates, calf birth or weaning weights.

Summary :

The trial confirms Australian research that selection of Angus steers for increased feed efficiency results in improved growth rates and heavier carcasses with little noticeable change in feed consumed and carcass or meat quality traits. Likewise with Angus heifers there were no significant differences recorded for maternal productivity traits such as calf weaning rate and pregnancy rates.

Earlier Australian research indicates that genetic variation in feed efficiency exists in Australian beef herds and that feed efficiency is moderately heritable. Therefore the potential exists to reduce the cost of beef production through

selection for more feed-efficient cattle. Economic analysis has indicated substantial benefit from selection for this trait in New Zealand and Australia, however the high cost of identifying superior animals is a barrier to rapid adoption of this technology.

BREEDPLAN estimated breeding values have been developed for net feed intake for the Hereford and Angus breeds to identify the more feed-efficient animals. In order to generate these figures, bulls are placed on a grain and hay diet in a feedlot situation (NFI central performance test) where daily intakes can be accurately measured. Results from this Massey trial suggest that bulls evaluated for net feed intake, on this diet, perform with a similar ranking on grass.

The technology to measure individual feed intake on pasture remains a major limitation to the adoption of feed-efficiency selection. The n-alkane method is reliable for detecting group differences in herbage intake but not for individual animal intakes. The challenge therefore is to perhaps refine the technology or develop new technologies that can be used to estimate individual pasture intake, by cattle, with a degree of accuracy that can be used for genetic purposes.

On-going research in the Australian Beef CRC II and III, of which Meat & Wool New Zealand is a partner, has indicated the existence of real potential for developing genetic and physiological markers for feed efficiency.

The relationship between feed efficiency and some blood constituents has been examined with the most promising physiological indicator evaluated being plasma Insulin-like Growth Factor-1 (IGF-1) concentration. The moderate to high heritability and relatively strong correlation with net feed intake makes IGF-1 a strong candidate for a physiological marker for feed efficiency. This is now being used as a screening test to detect the most likely candidates for inclusion in the much more expensive NFI central performance test, as is performed in Australia.

Russell Priest

Meat & Wool New Zealand
Beef Genetics Coordinator



Craig Croker

Craig Croker has recently joined ABRI as a Technical Officer. Following extensive training at ABRI, Craig will be based at Rockhampton with Tropical Beef Technology Services.

Craig has a degree in Rural Science from the University of New England and considerable experience in rural industries. Originally from Taralga in the Southern Tablelands of NSW, Craig grew up on the family's grazing property that encompasses beef cattle, merino sheep and prime lamb enterprises. The beef enterprise includes the Bolong Hereford Stud. Craig has also run his own rural contracting business.

Before coming to ABRI, Craig was the Cattle Events Manager for the Royal Agricultural Society of NSW (RAS). This role included the coordination of exhibitors, officials, sponsors, contractors, and breed societies into the beef, dairy, and steer sections of Sydney Royal Easter Show.



Benita Davis

Benita Davis joins the TBTS team as a Technical Officer from January 2006. She will be based on-farm near Murgon in the South Burnett area of Queensland where she is heavily involved with her family's beef cattle business. Benita will be largely responsible for TBTS activities in the south-east corner of Queensland. Activities will include on farm visits, workshops and field days.

Prior to her TBTS role, Benita worked for three years as a BREEDPLAN Consultant at the Agricultural Business Research Institute in Armidale. Benita also undertook the role of Executive Officer of the Australian Wagyu Association between January 2004 and October 2005. She has a first-class honours degree in Rural Science majoring in meat science, animal genetics and nutrition and is currently completing a Graduate Diploma in Business Studies.

Benita can be contacted by mobile: 0428 684 749 or email: benita@tbts.une.edu.au

Beef Cattle Field Day Proves Popular

On the 19th August, 2005, over 180 beef producers were drawn to a field day held by Matthew and Janelle McCamley at their property, “Eulogie”, Dululu, Queensland. The field day was a joint effort of Lancefield Brahmans, Roxborough Brahmans, Rowanlea Brahmans and Santa Gertrudis, the Australian Brahman Breeders Association and the Santa Gertrudis Breeders (Australia) Association.

The first half of the day had a performance recording and BREEDPLAN focus with groups of cattle used to practically demonstrate and discuss genetic differences. All groups of cattle were presented with performance information on a number of traits including growth, fertility and carcass.

The day opened with two Santa Gertrudis bulls in the sale ring and Andrew Chapman, Rowanlea Brahmans and Santa Gertrudis, asking the audience questions such as “which bull would you choose to produce the heavier calves?”, “which bull

would you choose to produce the daughters with the best fertility?” and “which is the best bull?”. The audience had no knowledge of management differences and only access to recently taken weights and carcass scans - a similar situation to many multi-vendor and single vendor bull sales. The majority of the audience (>80%) selected the more “eye appealing bull”, Z04, over the other bull, Z06.

The bulls were bought back into the ring later in the day with Andrew revealing that one bull, Z04, was being prepared for

a multi-vendor sale and the other, Z06, not being prepared due to being retained for in herd use. The visual (phenotypic) differences were mainly due to the feeding not the genetics. BREEDPLAN EBVs were then used to back up Andrew’s decisions to keep Z06 for in herd use. The EBVs and information behind them were provided to the audience with a sample of this in Tables 1 and 2.

Based on the objective performance information and EBVs, Z06 is genetically higher growth, more muscular, leaner and from a more fertile female line (based on days to calving and scrotal size data). This showed that what you see is not always what you get. Better decisions can be made using a combination of performance information, EBVs and visual appraisal.

Balancing fertility and growth was demonstrated by Brett Coombe, Roxborough Brahmans, using a pen of Brahman females and providing their performance information and EBVs (Table 3).

Brett informed the audience that, in his situation, single trait selection for high



Presenters at the field day were John Bertram, Qld DPI&F, Roger Jefferis ABBA President, Brett Coombe, Roxborough Brahmans, Andrew Chapman, Rowanlea Brahman and Santa Gertrudis, Christian Duff, Tropical Beef Technology Services and Matthew McCamley, Lancefield Brahmans.

Andrew Chapman, Rowanlea Santa Gertrudis with two bulls used to demonstrate the effect of environment and benefit of performance information. Z06 is in the foreground.



growth will have a negative impact on other important traits such as fertility. He used the example of a Brahman cow, 1490, being a high growth female (top 5% for 600 day growth and mature cow weight) yet less fertile based on days to calving EBV and calving interval records. He suspects that the high growth genetics of this female is one factor influencing her poorer fertility performance. Better selection decisions are based on a number of economically important traits such as growth and fertility.

Overall the field day proved very popular with constructive discussion between presenters and audience taking place. Thanks must be given to Matthew and Janelle McCamley, Lancefield Brahmans, for their effort, great facilities and cattle; Brett and Lyn Coombe, Roxborough Brahmans, and the Chapmans, Rowanlea, for also supplying cattle.

Any BREEDPLAN member interested in holding a BREEDPLAN focused field day can contact BREEDPLAN: (02) 6773 3555, Christian Duff: 0418 268 158 or their Association.

Christian Duff
TBTS

Table 1 - 600 day weight performance of Z04 and Z06

Bull Tag	Sire	Actual Weight	Age (days)	Age of Dam	Adjusted 600 day weight	Group Rank	600 Day EBV
Z04	Y. Jaunty	632	564	9 yrs	669	4/17	+7
Z06	R. Edgar	650	561	5 yrs	691	1/17	+20
Breed Average (2003 drop)							+5

Table 2 - Dam information Dam fertility information of Z04 and Z06

Bull Tag	Dam Id	No Progeny	Age (Yrs)	Age 1st Calf	Calving Interval	DC EBV
Z04	R. Garnet	6	9	2.8	669	-3.0
Z06	R. Ingrid	4	7	3.0	691	-6.7

Table 3 - Balancing growth and fertility

ID	DOB	Weight data		Fertility Data			
		600d EBV	MCW EBV	No. Calves	Age 1st Calf	Calv Int	DC EBV
1275	7/02/1999	+29	+22	4	2.7	381	-5.3
1479	15/11/2000	+25	+23	2	3.1	351	-4.4
1490	6/11/2000	+44	+44	2	3.1	423	+2.5
Breed Average (2003 drop)		+23	+23				0.0

BreedLeader Course - expressions of interest requested

Expressions of interest are now being called for upcoming courses, to start in May 2006. The courses will be held in regional areas in all states where sufficient interest is shown.

The BreedLeader 3-Day course has been developed for stud breeders who have been performance-recording for some years and want an intensive training course that teaches them to analyse the genetics of their seedstock herd, to pinpoint key performance indicators (KPIs) and the skills on how to develop a forward breeding plan.

The course will be delivered by Don Nicol, principal of Breedlink Pty Ltd and Wayne Upton from Animal Genetics and Breeding Unit (AGBU) at Armidale. Don was breed development consultant to the Angus Society for 10 years and

strongly involved in the early launch of GeneSTAR tests. Wayne is the extension specialist at AGBU.

The BreedLeader course will be V.E.T. accredited to comply with relevant National Training Competency Standards and as such may be eligible for FarmBi\$ subsidies, in relevant states.

The course is designed for a maximum of 10 businesses per course but more than one person per business is encouraged to attend where practical. This course is not breed specific and participants from different breeds can attend a course.

The course is centred on TakeStock (the new genetic audit tool developed by AGBU), the use of \$indexes, DNA tests and factors affecting genetic change.

BreedLeader is complementary to the Northern and Southern Beef Technology Services workshops and training provided by breed society technical personnel.

BreedLeader is an advanced level course and as such is a resource for producers wanting a higher level of understanding of the key genetic tools.

Don Nicol



To register your interest contact:

Pam Nicol on 07 3378 3146 or email breedlink@a1.com.au to register your interest and desired location for future planning.

Impressive growth in performance recording

The trends in performance recording for the major beef breeds in temperate Australia show an impressive growth since the commencement of BREEDPLAN in 1985.

Figure 1 shows the trends in the total number of performance records for various traits collected in the Angus, Hereford, Poll Hereford, Shorthorn, Murray Grey, Charolais, Limousin and Simmental breeds over the period from 1985 to 2003. Together, these eight breeds account for about 85% of all performance records processed on BREEDPLAN for clients in temperate Australia.

The greatest number of performance records over this period was recorded for calves born in 2002. The 2003 figures reflect the drought conditions prevailing in many areas at the time. Among the 128,104 registered calves born in the eight breeds in 2002, 76.5% had some performance measure taken (Table 1).

Figure 2 shows the trends in the total number of male and female calves born between 1985 and 2003 and how these were recorded for different trait combinations (or not recorded at all). There is a positive trend in the increased adoption of performance recording in the seedstock sector. However, there is still a lot of opportunity to increase the degree of complete recording in many seedstock herds. This would result in faster genetic progress within the herd. This is particularly important when we consider that genetic improvement across the entire beef supply chain is ultimately determined by the gains made in the seedstock sector.

There were a greater number of female calves than male calves registered in all years, but similar proportions of male and female calves tended to be recorded for different traits. Table 2 gives an outline of the combinations of traits recorded for males and females for the 2002 drop calves.

Recording of NFI and IGF-I data for the computation of NFI EBVs commenced in the late 1990s. Approximately 400-500 NFI test results were submitted per year from 1999 to 2003, with a peak of 501 animals tested in 2002. The number

tested in 2004 had declined to 401 animals. The majority of NFI tests have been associated with research projects on Angus animals, with a small number of Poll Hereford and Shorthorn animals also represented. In contrast, the number of animals with IGF-I test results has dramatically increased from about 300-400 per year during 1998 to 2000 (mainly from research projects) up to over 6,500 tested in 2004. Again, the majority of the IGF-I tests were for Angus animals, with only small numbers from each of the other major breeds.

Peter Parnell
NSW DPI

Table 1. Counts of animals and levels of performance recording across 8 breeds for 2002 drop calves

Item	Number of Calves	% of Total
Total 2002 drop calves	128,104	100%
Birth weights	76,654	59.8%
200 day weights	79,008	61.7%
400/600 day weights	70,092	54.7%
Ultrasound scans - EMA, fat depth	41,540	32.4%
- intramuscular fat	39,844	31.1%
Unrecorded - males	13,369	23.5%
Unrecorded - females	16,762	

Table 2. Percentage of males and females with various combinations of traits recorded.

Trait combination	Males	Females
No traits recorded	22%	25%
Birth weight only	14%	13%
One or more of 200/400/600 day weight	16%	18%
Birth wt and 200/400/600 day weights	23%	24%
Birth wt + 200/400/600 day wts + scan	25%	21%

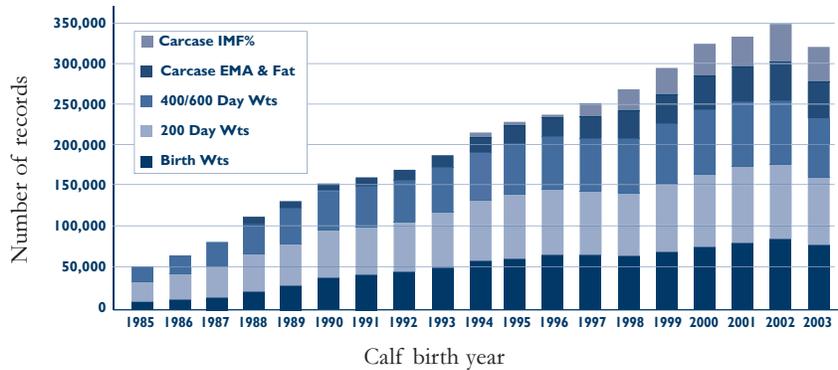


Figure 1. Trends in the total number of performance records for various traits collected in the major beef breeds in temperate Australia (Angus, Hereford, Poll Hereford, Shorthorn, Murray Grey, Charolais, Limousin and Simmental).

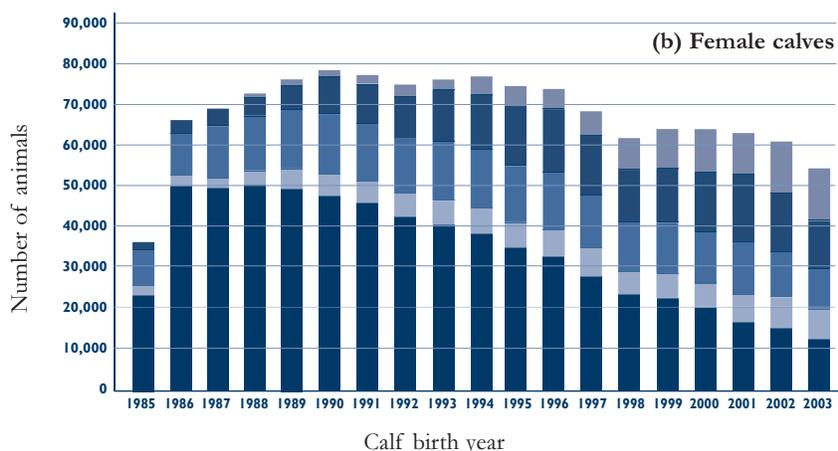
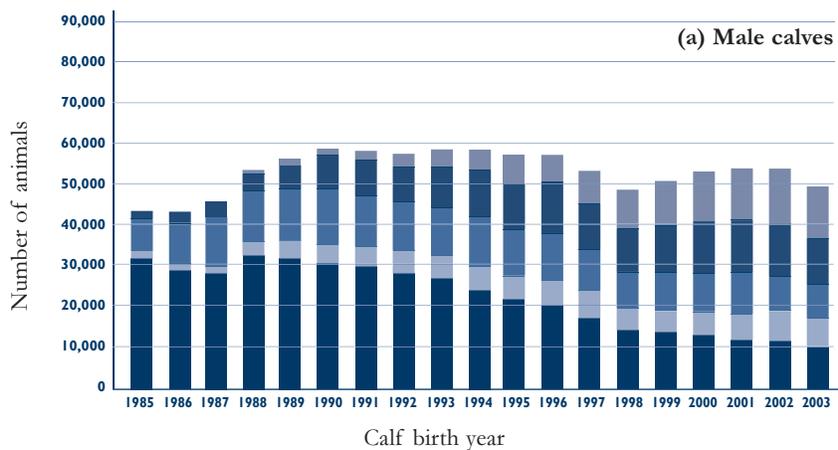


Figure 2. Trends in the total number of male and female calves recorded for different trait combinations in the major beef breeds in temperate Australia (Angus, Hereford, Poll Hereford, Shorthorn, Murray Grey, Charolais, Limousin and Simmental).

- Birth Wt, 200/400 or 600 Day Wt & Carcase Scans
- Birth Wt & 200/400 or 600 Wt
- 200/400 or 600 Day Wt only
- Birth Wt only
- No records



Maria Butler

Maria joined the BREEDPLAN processing team in September 2005. In 2004 Maria graduated from the University of New England with a Bachelor of Rural Science with Class 1 Honours and in early 2005 accepted a scholarship to undertake a semester's study towards a Masters of Agriculture at The Royal Veterinary and Agricultural University of Denmark in Copenhagen. Maria is currently continuing her Masters courses as an external part-time student at UNE.

Maria has on-farm experience in cattle management, including breeding and genetic selection, on her family's beef cattle property at Tenterfield, NSW. She also has excellent communication and leadership skills as has been displayed with her roles with Young Cattle Producers and the Rural Science Undergraduate Society. Maria was also part of UNE's Intercollegiate Meat Judging Team.

Maria's current BREEDPLAN responsibilities include Murray Grey, Limousin, Belmont Red and Romagnola.



Krystal Bailey

Krystal is an Honours graduate in Agricultural Science (Rural Technology) from the University of Queensland. Her Honours project was titled "Evaluation of Growth and Carcase Traits of Brahman and TROPICALLY ADAPTED Crossbreds in Northern Australia" and was completed in conjunction with the CRC for Cattle and Beef Quality and CSIRO.

Krystal has on-farm experience with extensive beef enterprises as well as excellent skills developed during her work experience with CSIRO Livestock Industries at Rockhampton. Her responsibilities in the BREEDPLAN team include Hereford, Simmental and part of Angus (Queensland herds). Krystal has also recently taken over the responsibilities for running the Secretariat for the Lincoln Red Cattle Society.

ILR2 roll out commencing

The registered seedstock industry internationally provides most of performance-recorded stock that are used to create genetic improvement in livestock productivity. The ABRI has been very successful in servicing the recording requirements of this market with its first-generation product, International Livestock Register 1. ILR1 is the system of choice of 80 breed associations worldwide with collective databases of around 40 million animals.

ABRI has drawn on 35 years of experience as a leading supplier of agri-business IT systems to create ILR2 – a new generation of breed register software that creates great excitement wherever it is showcased. The development cost of the project to date exceeds \$1.5M, part of which has been provided by the Federal Government through the International Livestock Resources and Information Centre.

ABRI's Christopher de Crespigny has done a brilliant job in leading the 4-person ILR2 development team since 2001. This team is now to be increased in size as ABRI starts to roll out the new system.

ABRI's projection of the share that ILR1/ILR2 will hold of the market for breed registry system for beef cattle by

country in 2007 is shown below.

This represents domination of the global market for beef registry systems on a grand scale!

ILR1 remains very popular with ABRI's corporate clients. The task of converting ABRI's 80 corporate clients from ILR1 to ILR2 is expected to take at least five years. This may seem like a long time but a simple bit of arithmetic shows that this is equivalent to more than one conversion per month – a challenging schedule. ILR2 systems are expected to have an economic life to at least 2020 – so ILR2 represents a good investment for clients that are proposing to make the upgrade.

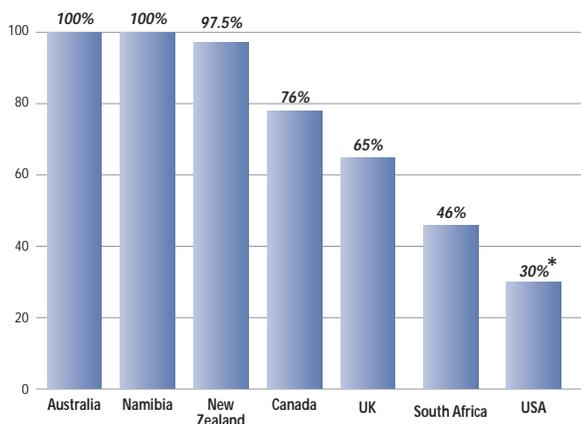
Some of the features of ILR2 which will make it a market leader are:

- Open source operating system and database management.
- Internet enabled.
- Multi-user, multi-species and multi-lingual.
- Runs on industry-standard servers.
- Draws on 35 years of ABRI experience.
- High level of integration with third party information e.g. blood labs, DNA tests.
- Vast international user base.
- Scaleable to any size of breeding group.
- Highly configurable to meet the specific needs of clients.
- High levels of support.

With breed societies across many countries choosing to install ILR2, the task of combining data for international genetic evaluations will become a lot easier than if all data came from different systems. That is another big plus for ILR2.

Arthur Rickards
Managing Director, ABRI

Projection of % of Beef Registrations on ABRI Software in a number of key countries - in 2007



** The registration market in the USA is 5.5 times bigger than that in Australia and Canada, and 12 times greater than in NZ and UK.*



Christopher de Crespigny
Manager of the ILR2 developments

SBTS Workshop 2006

BREEDPLAN & Related Genetic Technologies - "Getting Back to Basics"

The first two SBTS workshops were successfully held in Inverell and Quirindi during February and created a 65% increase in participants perceived understanding of BREEDPLAN. A combined total of 60 people attended the workshops, ranging from long term users of the BREEDPLAN technology to producers looking to record their cattle with BREEDPLAN for the first time. Feedback from the workshops has been very positive with producers leaving with a much better grasp of the fundamentals involved in BREEDPLAN, BreedObject and Internet Solutions.

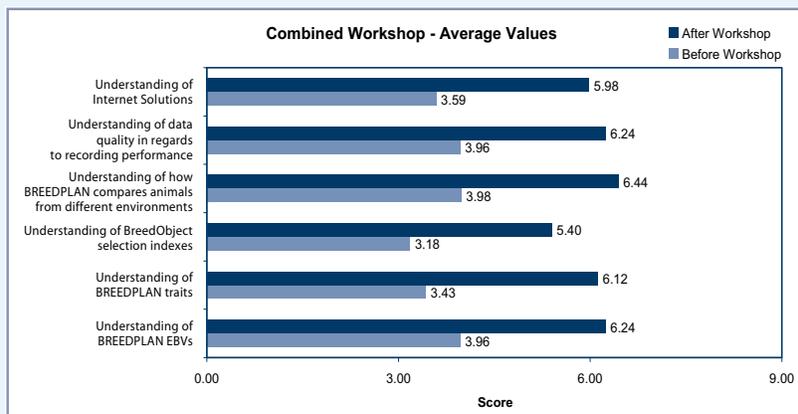
Two surveys were conducted to evaluate the effectiveness of each workshop. Firstly, participants were asked to complete a true/false questionnaire at both the start and end of the day. Producer knowledge increased on average by 21.3% with participants being able to answer on average 80% of questions correctly at the end of the workshop.

Participants were also asked to rate their level of understanding on a scale of 1 to 9 in six key areas relating to BREEDPLAN and other genetic technologies. The results from this survey are illustrated in the diagram below.

Producers' perception of their understanding increased by a massive

65% as a result of the workshops. Importantly, the survey shows that there is still room for further improvement in understanding of the technology and this vindicates the SBTS strategy of continuing workshop activity for four years.

Any member of the seedstock industry that is looking to improve their knowledge in the basics of BREEDPLAN, BreedObject and Internet Solutions is strongly encouraged to attend one of the upcoming SBTS workshops in 2006. Complete workshop details can be accessed from the SBTS website (<http://sbts.une.edu.au>) or by contacting the SBTS office on (02) 6773 3555.



Upcoming Workshops

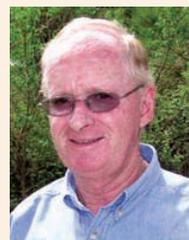
March 13th	Toowoomba, QLD
March 16th	Roma, QLD
July 3rd	Adelaide, SA
July 6th	Naracoorte, SA
July 10th	Hamilton, VIC
July 31st	Seymour, VIC
August 3rd	Sale, VIC
August 7th	Launceston, TAS
August 10th	Burnie, TAS
August 21st	Northam, WA
August 24th	Bridgetown, WA
August 28th	Albany, WA
Sept 11th	Forbes, NSW
Sept 14th	Wagga Wagga, NSW

NEW STAFF



Nick Wolverson

Nick has 25 years of commercial IT experience along with strong financial experience. He is the software author of Simply Budgets, which has sales in excess of 20,000 copies. He is joining the ILR2 team in March, 2006.



John Thomas

John Thomas joined ABRI in February, 06 as General Manager of Gelbvieh and Dexter. He has had 23 years experience in the ANZ Bank, worked for the Shorthorn Society and was the Finance and Administrative Manager of the Beef CRC II.

Saltbush innovations

RaceMATE

When Alexander McDonald of MDH Pty Ltd faced the task of finding a software system to handle the NLIS recording across his 12 properties running 150,000 head of cattle he shopped around. He found the solution in a new Saltbush product called RaceMATE that has been designed to make the recording for NLIS as simple as 1,2,3. MDH now has 35,000 tags loaded and this increases every week. "The system is simple and robust" said Alexander. "We are satisfied that we made the right choice".

RaceMATE includes a data logging application that is taken out into the yard to interface with data collection devices that range from Electronic Identification (EID) readers to electronic scale devices. It connects directly to the devices via serial cables, or via Bluetooth wireless networking. By making data collection at the Race simple and intuitive it becomes feasible to cut down the training cost of the operators at the Race. Transmission of email files to NLIS is a routine part of the system.

There is a version of RaceMATE for any size of cattle operation. Farms with up to 300 cattle can buy RaceMATE Lite for just \$330 including GST. More powerful systems cost more and can handle tens of thousands of animals across several properties.

A key feature of the RaceMATE is the simplicity of connecting electronic devices to the data loggers. Plug and Play features permit automatic recognition of hardware devices.

JAS Compliant Systems

Japan has become Australia's largest market for Australian beef by value. The Ministry of Agriculture, Forestry and Fisheries (MAFF) in Japan has developed a Japanese Agricultural Standard (JAS) of quality assurance. The recording requirements for JAS accreditation are very demanding and those companies who

achieve it are able to use the JAS logo and capture price premiums.

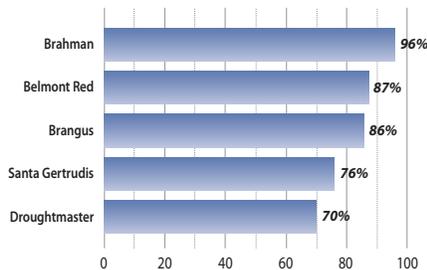
Essentially it is necessary to achieve traceability and quality assurance throughout the supply chain. Saltbush has modified its HerdMASTER.Net product to meet the requirements of recording by feedlots, abattoirs and other marketing groups so that they can achieve JAS accreditation.

There will be a substantial corporate market for this system.

HerdMASTER

The HerdMASTER PC software for cattle studs continues to capture a greater share of the international market for on-farm herd management software. It is widely used by the tropical breeds participating in the Tropical Beef Technology Services project where the percentage of weaning weights submitted electronically to

Percentage of Weaning Weights Received Electronically for a range of Tropical breeds in Australia - 2004 / 2005



BREEDPLAN is very high.

The current version of HerdMASTER also has a seamless integration with NLIS.

HerdMASTER has been translated into Afrikaans and Spanish and is gaining market share in South Africa, Namibia, the UK, New Zealand, Canada, the USA and Argentina.

For further information on HerdMASTER or any Saltbush product:

<http://saltbush.une.edu.au> or 1800 111 637

RaceMATE

Low-cost software that makes NLIS recording as easy as . . .



Kylie Bailey

Saltbush Software is proud to announce the appointment of Kylie Bailey as its new Marketing Manager. Kylie has packed a lot into her 26 years including 12 years of working on show preparation teams, the 2002 ING Rural Achiever, the 2003 National Poll Hereford Youth Ambassador, 3rd in Beef Australia 2003 Young Beef Ambassador Award, a Bachelor of Business from University of Sydney, a Graduate Certificate in Public Relations, a client service officer to the Cotton Industry 2002, Assistant Manager of the Crossing Theatre a Narrabri and she has run her own cattle promotions company for three years.

Kylie understands what both commercial and stud cattle producers are looking for in their PC-based information systems. She looks forward to representing the exciting new range of Saltbush products to cattle producers Australia wide and in the ten overseas countries serviced by Saltbush.

Kylie will be heading up the marketing team that Saltbush will have at Beef Australia 2006 – so drop in for a cup of tea. For a down-to-earth explanation of what Saltbush products can do for you, give Kylie a call on 02 67 73 2407.

BREEDPLAN International Beef Recording Scheme

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