Pin-pointing northern Australia’s best breeding cattle

INSIDE:
Beef tenderness under the research spotlight
CRC science helps increase beef price premiums
Editor’s Note

Welcome to another edition of the Beef Bulletin. Following a massive response to the most recent Beef Bulletin released in December 06 the Beef CRC will now generate four Beef Bulletins a year, Summer/Autumn/Winter and Spring editions. If you missed the December edition you can find it at www.beefcrc.com.au then click on the Publications tab. There you will find the current and past Beef Bulletin editions.

In this Autumn edition of the Beef Bulletin, the Beef CRC’s major research projects are featured including the latest from a project pin-pointing northern Australia’s best breeding cattle. In this story the first results aiming to make northern breeding herds significantly more profitable and productive using genetics are outlined and while there is still a long way to go before the research is fully complete, early signs are favourable.

Beef tenderness is also under the Beef Bulletin spotlight. Tenderness is one of the most important traits influencing consumer preference for beef and this story outlines research underway by the Beef CRC to uncover some of the deeper truths about what influences tenderness in beef.

And if you’re a southern cattle producer, feedlotter or processor, get ready for the release of seven years of research aimed at tailoring precision breeding and management strategies to target regional and market specifications for southern Australia. This edition of the Beef Bulletin will wet your appetite with a small taste before the full release of results to be made public later this year.

Don’t forget, if you know of someone who would like to receive the Beef Bulletin, please contact the Beef CRC Headquarters on (02) 6773 3501 or beefcrc@une.edu.au

Enjoy the read and I do hope a bit of rain has found you over the past couple of months.

Warwick Fraser
Potential to create significant production and profit benefits for the producer.”

“Currently animals are selected for breeding purposes based on desired traits such as growth and carcass and beef quality,” Dr Hawken said.

“But this new research will allow cattle producers to use a DNA test to remove some of the guesswork from selecting the best breeding females,” she said.

Using the Beef CRC’s extensive database of accurate measurements in tropically adapted cattle, Dr Hawken was able to extract information from almost 600 Brahman animals which have been individually screened for 10,000 genetic markers. The genome (a complete set of the 10,000 genes) for each of these animals will be analysed against the measured performance information to uncover the relevant DNA tests.

“Initial results, new to hand, have revealed a handful of markers closely associated with age of puberty. While we still have a long way to go, these initial results are extremely promising,” Dr Hawken said.

The next step according to Dr Hawken will now involve ensuring accuracy, determining how much earlier heifers reach puberty, discovering the associations between genes for puberty and subsequent cow breeding and re-breeding performance (to ensure no unfavourable consequences for either the cow or calf from earlier breeding) and validating the markers in other cattle breeds.

“The markers will now be validated against a larger population to ensure the results are robust. We will also take a closer look at these markers, in particular the neighbouring genome regions to identify any other variations in the DNA which may help explain the affect of age of puberty more precisely,” Dr Hawken said.

When completed, this research will form part of the Beef CRCs goal of increasing the gross revenue of Australia’s beef industry by at least $179 million per annum.

Project collaborators include CSIRO Livestock Industries, Queensland Department of Primary Industries and Fisheries, Animal Genetics and Breeding Unit and University of Queensland.
A Meat and Livestock Australia survey has found Meat Standards Australia (MSA) graded steak achieved a price premium 10 percent higher than non-MSA steaks.

MSA is a unique beef grading system underpinned by Beef Cooperative Research Centre science which, depending on how the beef is cooked, guarantees tenderness.

According to MSA Manager, Cameron Dart the price premiums were led by MSA cube rolls and MSA butt fillets, which received 16% and 11% price premiums, respectively.

“MSA retailers in all states have reported premiums for the popular primals such as loin cuts and rumps. The results reinforce the fact that consumers are willing to pay more for quality,” Mr Dart said.

To help quantify the impact of MSA on beef pricing, MLA has employed a leading research company to conduct national butcher and wholesaler pricing research.

“The research is being conducted via telephone interviews to collect pricing and qualitative information from 70 non-MSA butchers, 30 MSA butchers and 20 wholesalers per month from across Australia.

Information will be collected weekly throughout the month to ensure a relative sample.” Mr Dart said.

A percentage of participants from each state will be used in the sample and will be weighted based on the number of outlets in that state.

Information collected from butchers and wholesalers includes prices for whole carcase and broken carcase sales, carton sales and all cuts of MSA and non-MSA beef.

“The results reinforce the fact that consumers are willing to pay more for quality.” Mr Dart said.

Qualitative information collected in the survey includes individual cut performance for the month, as well as specials, promotions and satisfaction with product quality.

The retail and wholesale pricing data will be provided to MLA on a monthly basis. The survey will provide the basis to accurately track trends in the wholesale and retail sectors.

More than 100 MSA butchers contributed to the most recent three monthly survey which revealed 90% of butchers selling MSA beef regard the quality was ‘good to excellent’.

When asked to rate the usefulness of MSA point of sale material, 67% of MSA butchers said it was ‘somewhat useful to very useful’ and a further 11% noted that it was ‘extremely useful’.

An independent economic study completed in 2006 by The Allen Consulting Group found MSA delivered $244 million in price premiums for the cattle industry between 1999 and 2006.
Have you ever wondered why you can cut some steaks with a butter knife, whilst others test out the toughest of teeth?

Beef CRC has put the spotlight on beef tenderness, one of the most important traits influencing consumer preference for beef.

The Tenderness Project is focussed on uncovering some of the deeper truths about what influences tenderness in beef.

“We already know a lot of the ingredients to producing tender beef,” Beef CRC PhD student Linda Cafe of the New South Wales Department of Primary Industries said, “but less is known about the newer genetic markers for tenderness.”

“The project is investigating how new tenderness markers work, and how they interact with other management and processing options which will allow a better understanding of their impact on muscle.”

Ms Cafe said.

“These tenderness markers are related to genes controlling calpain and calpastatin, two factors known to be involved in protein breakdown in muscle, and which also contribute to meat tenderisation (or ageing) after slaughter.” Ms Cafe said.

The Tenderness Project forms part of the Beef CRCs ‘High quality beef for global consumers’ program, research which is forecast to value add Australia’s beef industry by at least $43 million per annum.

Two separate cattle herds of around 400 head have been established on opposite sides of the country as part of the project. The east coast herd, based in New South Wales consists of Brahmans sourced from commercial and Beef CRC research herds across central Queensland and Angus cattle from the Glen Innes and Trangie Research Stations in NSW.

The west coast herd features Brahmans from properties in Northern WA and Angus cattle from Vasse Research Station south of Perth.

According to Ms Cafe more than 2500 weaners were DNA tested for genetic markers associated with tenderness to find 400 animals which were genetically ‘tender’ or ‘tough’.

“Interactions between the genetic marker for tenderness and a number of commercial traits are being studied,” Ms Cafe said. “For instance, half of the herd will receive a growth promotant (HGP) to allow studies on the interaction between HGPs and tenderness in animals with different tenderness markers.”

“This should be interesting considering HGPs and the tenderness genetic markers work on the same protein system.”

Information on growth rates, temperament, feed efficiency and body composition will be collected in addition to the biological data revealed from analysis of muscle samples.

Currently both herds have entered feedlots following a six month backgrounding phase. The herds will be finished on a standard grain ration for between 80 to 110 days. After grain finishing the WA herd will be slaughtered at Harvey Beef, and the NSW herd at John Dee in Queensland.

“Comprehensive carcase and meat quality data will then be collected, including specific measurements of objective meat quality after different ageing periods, and consumer sensory testing,” Ms Cafe said.

“The carcases will be hung conventionally or tenderstretched to allow us to look at the interactions between the processing option and the different tenderness markers.”

The study is supported by NSW DPI, AgWA, Victorian DPI, Murdoch University, University of New England, SARDI, CSIRO and University of Queensland.
Organisers and participants of the Armidale Feeder Steer School are calling the 2007 Feeder Steer School in Armidale another rousing success.

More than 80 participants from across New South Wales, Queensland and Victoria representing all levels of the cattle and feedlot industry attended the school, with a particular focus from the feedlot and stock agent sector.

The program featured the beef industry’s biggest players delivering the latest Beef CRC research and practical skills to help improve the paddock to plate supply chain.

Representatives from Australia’s largest cattle producer, the Australian Agricultural Company, Australia’s largest processor, Australian Meat Holdings and one of the countries largest feedlots, Rangers Valley, addressed participants.

Beef CRC Extension Specialist, Bob Gaden of the New South Wales Department of Primary Industries says the ongoing popularity of the school confirms that the right information is being delivered.

“Word of mouth about the school has been phenomenal, so we are obviously hitting the mark.” Mr Gaden said.

“Not everyday do you hear the President of the Australian Lot Feeder’s Association, Malcolm Foster, offer his thoughts on the growing strength of the feedlot industry or Brett Campbell of Australian Meat Holdings, the biggest buyer, processor and exporter of cattle in Australia.”

Substantial feedlot industry growth in Queensland resulted in a sharp increase in the number of northern participants and was a key reason why Tom McLeish, a stock and station agent with "TopX" in Longreach attended the school.

Mr McLeish told the Armidale Express not even rising floodwaters in western Queensland could stop him from attending the school.

“We’ve had seven to eight inches of rain at Longreach this month (January), followed by another three to four inches, so I just made it out ahead of the rising floodwaters,” Mr McLeish said.

Mr McLeish said TopX management identified the school as a good education opportunity.

“There has been a dramatic increase in the domestic demand for beef and that has prompted resurgence in the domestic feedlot industry throughout Queensland,” he said.

“I hope to learn skills from this school to allow me to give producers, from whom we source feedlot cattle, relevant market information and the best way they can meet that market.”

The school was a mixture of young and old with teenager Andrew Black from Charters Towers making the long trip to take part. With an upcoming role planned in his family’s beef cattle operation, the school provided a valuable grounding.

“It’s really good and I’m learning some things that will be pretty handy at home,” he told the Armidale Express between conscientious note taking.

“We get a chance to look at new methods and better ways of doing things.”

Planning has already begun for the 2008 Armidale Feeder Steer School.
Bulls get all the press, but it’s cows who consume more than 70 per cent of a herd’s feed requirements, helping turn grass into calves.

It’s a fact some feel is overlooked in the industry’s emphasis on commercial traits like lean meat yield.

Investigating these concerns, a comprehensive Beef CRC project across southern Australia is examining whether bull selection strategies impact on “maternal efficiency” in fundamental areas like fertility and the ability to wean a calf.

“If we continue to favour bull selection using commercial traits like yield and feed efficiency, are we getting females that are less maternal?” asks Beef CRC Researcher John Graham, of the Victorian Department of Primary Industries.

Mr Graham says it’s a question that’s being asked within the beef industry, and which the Beef CRC Maternal Efficiency project hopes to resolve by assessing 500 females in a research station environment, and 8000 out in the field in commercial herds.

Two specially selected research herds are being used in Western Australia and South Australia, each carrying 250 cows with known BREEDPLAN values for either high and low Net Feed Intake (NFI), or high and low fat levels.

Pasture monitoring will be linked to animal performance for a gauge of feed conversion efficiency.

A second component of the project involves 8000 BREEDPLAN-recorded cows in the national beef herd - 4000 Angus, and 2000 each of Hereford and Shorthorn - and is looking at changes in body composition across seasons.

Intramuscular fat (IMF) levels and fat score will be recorded using live animal scans in these cows twice a year for two years. These industry cows are now undergoing their first scan as yearlings; they will be scanned again just before their first calf, at that calf’s weaning, and before their second calf.

The research herds will be scanned at the same time, ensuring data correlation between herds. At each scanning, the industry cows will be bled and checked for levels of the IGF-1, which is an indicator of Net Feed Intake (NFI) efficiency.

A subsidiary goal of the project is to identify a trait or genetic marker to indicate NFI, without the great expense of measuring individual animal feed intake over a 70+ day period.

“NFI is currently very hard to measure in animals in the paddock, so we’re looking for other indicators,” Mr Graham says.

Mr Graham also notes that while the research herds will have pre-arranged nutritional changes imposed upon them, the scanning times mean that the industry cows will also be recorded at seasonal extremes of feed availability.

“It means we can look for traits that enable some animals to effectively use body reserves, or put those reserves back on as feed becomes available,” Mr Graham says.

“By 2010, the beef industry will have a better picture of how popular commercial traits are impacting on the cow herd - if they are having an effect - and perhaps be on the way to having some extra traits to help the beef industry more effectively target ‘efficiency’ in its cow herd,” Mr Graham says.
A seven year Beef Cooperative Research Centre (CRC) project targeted to boost production and profitability for cattle producers across southern Australia is almost complete.

The Regional Combinations project has identified the best combination of ingredients for southern cattle production which includes genetics, nutrition and management. But like any recipe, the outcome depends on the mix.

According to Beef CRC Research Leader, Bill McKiernan of the New South Wales Department of Primary Industries, Regional Combinations is developing management and precision breeding strategies tailored to specific regional or market specifications.

“For example, if a producer supplies the local trade, not only do they have to maintain a high level of retail beef yield (RBY) and beef eating quality, but they must also ensure they are growing stock as efficiently as possible,” Mr McKiernan said.

“Tailored management and breeding strategies developed will guarantee cattle producers, feedloters and processors can meet their specific requirements in the most cost effective way.”

“With operating costs increasing by the day, profit margins are under pressure. So allowing the industry to consistently produce a tailored product with a higher value, will create significant economic gains,” Mr McKiernan said.

Approximately 2,500 steers and heifers across four southern states were assessed in the exercise and according to Mr McKiernan, early findings are looking very positive.

Results have found large effects from the genetics and smaller but important effects from growth rate.

“For instance, we’ve done an analysis of different growth paths which show there is a small but significant effect on final eating quality in favour of animals that grew fast after weaning compared to those that grew slow over the same time period,” Mr McKiernan said.

“Additionally when we looked at the economics, the fast-grown animals were vastly better economically than slow-grown - especially at the New South Wales site where there was still a substantial margin, even after adjusting for the extra costs involved in growing pastures to achieve the increased growth rate,” Mr McKiernan said.

According to Mr McKiernan, the NSW and Victorian sites identified clear differences in the eating quality between carcase types and between carcase classes which favoured high intramuscular fat (IMF)-sired progeny.

“These findings were also supported by similar trends in the Western Australian data,” Mr McKiernansaid, “and clearly suggest that selection of sires should be made with specific importance placed on the desired final carcase outcomes required like high yield or high IMF.”

“The results also demonstrate that it is possible to select for both RBY and IMF simultaneously. But because of the positive association of fatness with eating quality, care should be taken when selecting sires of high yield potential (or with high RBY%) with IMF’s), not to unduly decrease fatness.” Mr McKiernan said.

**Background**

The ‘Regional Combinations’ Project brought together scientists from four State Departments of Agriculture across southern Australia. To ensure in-built specific goals were achieved, a number of producers, processors and feedloters from across southern Australia were also directly involved in the project. In NSW, these included Kooba Station at Darlington Point owned by AgReserves Pty Ltd, and Cargill Beef Australia through their “Jindalee” feedlot and abattoir works at Wagga Wagga.

The project targeted a variety of market specifications and temperate production systems.

“Producing beef of consistent high quality is vital to the profitability, efficiency and the future of Australia’s beef industry”, Mr McKiernan said. “Australia’s customer base, both here and abroad require different inputs along the beef supply chain. We must meet these needs to maintain our status as one of the world’s biggest beef exporters.”

**Research herd**

Sires with accurate EBVs for carcase type (RBY - high yield, IMF - high marbling, or both), some of which had been used in previous Beef CRC studies, were chosen to generate specially designed progeny groups. Many of these sires were used in common across the ‘Regional Combination’ sites, and this allocation, plus the linkage to previous studies, greatly increased the power of the experimental design. Sires were chosen to generate progeny with a wide range in retail beef yield and marbling. Potential for high yielding carcase types was drawn from sires of European breeds (Charolais, Limousin and Belgian Blue) and for high marbling types (Black Wagyu sires). Angus sires were chosen on their Estimated Breeding Values (EBVs) for either or both of high retail beef yield

**Steers during backgrounding on the fast growth treatment**
and high marbling providing sires with objective ranking for these traits. Red Wagyu sires were also included to assess their dual-trait potential (see Figure 1).

Growth treatments differed to best suit each region. They were applied between weaning and finishing to steers and heifers of different genetic potential for carcase type.

All carcase types, but not all breeds or sires, were used at all sites. However, many of the sires were common across sites, establishing the genetic links required to combine data for analysis of effects, and in particular to allow examination of genotype by environment interactions.

Results
Comprehensive data on growth rates, carcase traits and meat quality as well as actual and predicted consumer eating quality were collected and final analysis of the data is now virtually complete.

Results indicate that carcase type has a major impact on the ability of cattle to meet variable and exacting market specifications. Market specifications already have requirements for weight and fatness, but are likely to incorporate additional traits like eating quality and meat yield in the future. Important findings about the carcase types showed the high yielding types produced carcasses of acceptable eating quality, though below the quality of those bred for higher fatness. This indicates that those types can add value to the end product in terms of increasing total quantity of an acceptable product but may need to be aimed at markets not requiring particularly high marbling and meat quality attributes like the long fed Japanese trade.

The combination of particular carcase types with appropriate management will most certainly increase market compliance and improve herd profitability, particularly as the beef industry moves towards a true value-based marketing system.

This research indicates there are few if any interactions between backgrounding growth and genetic potential that affect carcase traits at finish for the range of growth rates studied. This means we now have increased confidence in predicting how various genetic/breed types will react under most environmental conditions.

Information is also being generated from this project at the Western Australian and Victorian sites about best calving times in those particular environments. In Western Australia, winter-calving was consistently more profitable than spring-calving.

Industry outcomes
Economic values have also been calculated for each of the production systems. This will generate “best bet” decisions about the combinations of genotype and growth rate.

Full results from the ‘Regional Combinations’ Project will be presented at a two-day industry conference currently being planned by the Beef CRC for early 2008. Full details for the conference will be outlined in upcoming editions of the Beef Bulletin and on the Beef CRC website, www.beefcrc.com.au

Project supporters
New South Wales Department of Primary Industries, Victorian Department of Primary Industries, South Australian Research and Development Institute, Department of Agriculture and Food AgReserves Pty Ltd, Alcoa Farmlands WA, Cargill Beef Australia and E.G. Green and Sons.

Final results from this project are now being released and include:

• Clear demonstration of the effects of the genetic and growth treatments on production, carcase characteristics, meat quality, market compliance and profitability.

• Encouraging strategies to improve meat quality (both yield and eating quality), since it is likely to become an increasingly important issue for future markets, both domestic and export. Results are clearly showing the benefits of both growth path management and selection of appropriate breed types.

• Showing how major economic benefits can be gained by better matching the animal requirements of production systems to pasture availability, specifically in timing of calving to minimise the need for supplementary feed inputs and to maximise cow reproductive and lactation performance.

• Demonstrating how results from these experiments are twofold in value and effect: they will supply input data while clearly highlighting the need for the development of models which can incorporate the complexities of breed/carcase type, animal growth and carcase end points, to assist producers to optimise their production system for the most profitable outcome.

• Expanding the results from the individual sites with forthcoming analyses combining data across all sites, which has the designed statistical strength of many common sires. This will allow a wider examination of interactions, estimation of sire effects and correlations and other issues that will be important for future modelling.
Politicians in Canberra have been put through their paces by beef technology which can predict whether they would be tough or tender to eat.

Flight Time is a Beef Cooperative Research Centre (CRC) technology and formed part of an exhibition held at Parliament House showcasing the best of the national Cooperative Research Centres’ Programme.

According to Beef CRC CEO, Dr Heather Burrow, research has found a link between the temperament of an animal (measured by its flight time) and its eating quality and feedlot performance. As a result, the Beef CRC developed a simple, on-farm system which enables cattle producers to predict the eating quality of their herd without having to send them to slaughter.

“Using a Flight Time recorder animals are measured on the time taken to cover approximately two metres after leaving a weighing crush. This Flight Time is then used to predict an animal’s eating quality as well as its growth and feed efficiency in a feedlot.”

“Nervous animals who cover the distance quickly record a fast Flight Time score and are likely to produce progeny whose meat is tough while calmer animals who take longer to cover the distance produce progeny with better eating quality.” Dr Burrow said.

“Flight Time is a simple objective measure every producer with a cattle crush can use. Not only can it help predict eating quality, but other important traits like growth, feed conversion and feedlot and transport performance.”

Recent feedlot Flight Time trials found calm cattle achieved a price premium of $80-$100 per head over nervous cattle, with calm cattle able to increase their weight by up to 70kgs more than nervous cattle during feedlot finishing.

The CRC Showcase gave Australia’s 226 Members of Parliament and Senators the opportunity to take a first-hand look at the country’s leading research providers, with a handful recording their own flight times to determine if they were tough or tender.

Local Member for New England, the Hon. Tony Windsor MP, was there and was pleased to see a CRC based in his electorate highlighted as one of Australia’s leading CRCs.

“Having the Beef CRC chosen to showcase their activities in Parliament House is a great recognition of the success and value of the work they are doing in developing practices to keep Australia’s beef industry at the leading edge.”

“I congratulate the excellent team that has been assembled in the New England and encourage them to keep working hard to maintain Australia’s position at the top of the world’s beef producing nations,” Mr Windsor said.

During the showcase the Minister for Education, Science and Training, the Hon Julie Bishop presented the inaugural STAR Award for Cooperative Research Centre (CRC) engagement with Small and Medium Enterprises (SMEs) to Brisbane-based CAST CRC.
Want the latest beef research?

If you would like to know more about the Beef CRC, why not join our mailing list? We have a range of publications available outlining past and current research.

**Producing Quality Beef**

If you produce beef, this booklet has been written for you. Whether you are a seedstock breeder, commercial breeder, backgrounder, finisher, processor or chef, you have an influence on the consumer’s eating experience.

**Australian Beef - the Leader! Conference Proceedings**

In 2006 over 200 delegates attended the Beef CRC conference where the results of two phases of Beef CRC research was showcased. Papers included in these Proceedings are from well-respected overseas speakers as well as leading Australian scientists in the fields of quantitative genetics, molecular genetics, meat science and management and nutrition.

**Genetics CD and Nutrition, Meat Science & Health CD**

This two CD pack is a summary of GENETICS findings of the Beef CRC as well as a summary of nutrition, meat science and health & welfare outcomes. The CDs contains a variety of documents, from simple summaries, to scientific papers and slides.

**Regular Research Updates**

As Australia’s largest integrated beef research project, the Beef CRC has a wealth of information which is released on an ongoing basis. From research updates, to latest the in genetic and management technologies. Make sure you’re kept in the loop!

**Achievements of the Beef CRC: A platform for the next 10 years**

This booklet tells you everything you need to know about the groundbreaking research undertaken by the Beef CRC since it was established in 1993. The booklet summarises the Beef CRC’s major achievements and presents an overview of the latest Beef CRC which is focused on gene discovery and gene expression by simply explaining how genomics research will influence cattle breeding and management practices over the next 10 years.

**Key Messages for Commercial Breeders in Southern Australia**

A simple dot point summary of the main messages from Beef CRC research for commercial beef producers in southern Australia.

**Beef Bulletin**

The Beef Bulletin is a glossy feature magazine filled with the latest Beef CRC news and research developments. The Beef Bulletin puts the spotlight on how the latest research is being adopted by industry and features some of the Australian beef industry’s biggest players. The Beef Bulletin is also home to the beef industry’s most comprehensive events calendar.

**Beef CRC Fact Sheets**

A range of Fact Sheets are available on line at www.beefcrc.com.au.

**Livestock Library**

An online library for beef and sheep industry publication at www.livestocklibrary.com.au
APRIL
5 .  .  .  .  Red Poll Group Breedplan cut-off
5-18  .  Royal Easter Show, Sydney, NSW
20  .  .  .  .  Blondes Group Breedplan cut-off
20  .  .  .  .  MLA “Breed-Up Forum”, Cloncurry, Qld
23-26  .  .  .  .  Applied Grazing Course, Hughenden, Qld
24  .  .  .  .  MLA “Breed-Up Forum”, Fitzroy Crossing or Broome, WA
26  .  .  .  .  Closing date for submissions to the 2007 BIA National
3-5  .  .  .  .  Agfest, Launceston, Tas
3-5  .  .  .  .  Small Farming, Lang Lang, Vic
4  .  .  .  .  Herford/Poll Hereford Group Breedplan cut-off
4  .  .  .  .  MLA “Breed-Up Forum”, Tenmant Creek, NT
4-6  .  .  .  .  Tocal Field Days, Paterson, NSW
4-6  .  .  .  .  Victorian Cattle Assessment School, Melbourne, Vic
8-9  .  .  .  .  Murray Downs Field Days, Swan Hill, Vic
9-10  .  Herford National Show and Sale, Wodonga, Vic
10-12  .  .  .  Agro-Trend Field Days, Bundaberg, Qld
11  .  .  .  .  Salers Group Breedplan cut-off
11  .  .  .  .  Angus Group Breedplan cut-off
11-12  .  .  .  .  Murrumbidgee Farm Fair, Yanco, NSW
11-12  .  .  .  Riverina Field Days, Griffith, NSW
18-19  .  .  .  National Beef Week, Bendigo, Vic
16-23  .  .  Grazing for Profit School, Armidale, NSW
21-22  .  .  .  .  Cattle Council of Australia Meeting, Canberra, ACT
21-27  .  .  .  Casino Beef Week, Casino, NSW
25  .  .  .  .  .  Murray Grey Group Breedplan cut-off
25  .  .  .  .  .  Santa Gertrudis Group Breedplan cut-off
MAY
1-2  .  .  .  .  .  MLA “Breed-Up Forum”, Dampier, WA
27-28  .  .  .  .  Grazing for Profit School, Mackay, Qld
20-22  .  .  .  Farm Fantastic Field Days, Caboolture, Qld
23  .  .  .  .  Getting the most from Breedplan workshop, Launceston, Tas
25  .  .  .  .  Getting the most from Breedplan workshop, Warragul, Vic
25-26  .  .  Grazing for Profit School, Rockhampton, Qld
26-28  .  Royal Darwin Show, Darwin, NT
27  .  .  .  .  Getting the most from Breedplan workshop, Shepparton, Vic
27-29  .  .  Dalby Cattle Assessment School, Dalby, Qld
30  .  .  .  .  Getting the most from Breedplan workshop, Albury, NSW
TBC  .  .  .  .  .  .  South and Central Qld Beef Weeks
JUNE
3  .  .  .  .  .  Poll Hereford Society AGM, Dubbo, NSW
4-5  .  Poll Hereford National Show and Sale, Dubbo
5-7  .  .  .  Farmtest, Kingsthorpe, Qld
6-13  .  .  Grazing for Profit School, Coowra, NSW
8  .  .  .  .  .  .  Limousin Group Breedplan cut-off
8  .  .  .  .  .  Droughtmaster Group Breedplan cut-off
13-16  .  .  .  NZ National Ag Field Days, Hamilton, NZ
14-16  .  .  .  PRIMEX, Casino, NSW
15  .  .  .  .  .  Brangus Group Breedplan cut-off
15  .  .  .  .  .  Charolais Group Breedplan cut-off
16-17  .  .  .  Droughtmaster Youth Development Course, Emerald, Qld
18-19  .  .  .  .  Northern NSW Beef Week
19  .  .  .  .  .  .  Beef CRC Forum, Venue TBA
20-27  .  .  Grazing for Profit School, Mount Gambier, SA
22  .  .  .  .  Belmont Red Group Breedplan cut-off
27-4  .  Grazing for Profit School, Mackay, Qld
29  .  .  .  .  Shorthorn Group Breedplan cut-off
29  .  .  .  .  .  Brador Group Breedplan cut-off
TBC  .  .  .  .  .  MLA Beefed Up Forum, Barcaldine, Qld
TBC  .  .  .  .  MLA Beefed Up Forum, Charlieville, Qld
JULY
2-5  .  .  .  .  Tocal Cattle Assessment School, Paterson, NSW
6-7  .  .  .  .  - Brahman Group Breedplan cut-off
6-7  .  .  .  .  New England Hereford Youth Group Junior Show,
Tamworth, NSW
9  .  Getting the most from Breedplan workshop, Clare, SA
9-11  .  .  Recent Advances in Animal Nutrition in Australia,
Armidale, NSW
10-12  .  .  .  .  WA Cattle Assessment School, Harvey, WA
11  .  .  .  .  Getting the most from Breedplan workshop, Keith, SA
11  .  .  .  .  Red Angus National Show and Sale, Dubbo, NSW
12-14  .  .  Ag-Grow Field Days, Emerald, Qld
13  .  Getting the most from Breedplan workshop, Ballarat, Vic
13  .  Getting the most from Breedplan workshop, Bairnsdale, Vic
13-14  .  Mudgee Small Farm Field Days, Mudgee, NSW
17  .  .  .  .  2007 BIA AGM and Council meeting, Albury, NSW
17-19  .  Southern Beef School, Glenormiston, Vic
17-19  .  AgForce State Conference, Goondiwindi Qld
18  .  .  .  .  2007 BIA National Conference “Getting capital back
into agriculture”, Albury, NSW
18  .  .  .  .  2007 Pfizer Gala Dinner and BIA Award Presentations,
Albury, NSW
18-25  .  Grazing for Profit School, Dubbo, NSW
20-22  .  Farm Fantastic Field Days, Caboolture, Qld
23  .  .  .  Getting the most from Breedplan workshop, Launceston, Tas
25  .  Getting the most from Breedplan workshop, Warragul, Vic
25-26  .  Grazing for Profit School, Rockhampton, Qld
26-28  .  Royal Darwin Show, Darwin, NT
27  . Getting the most from Breedplan workshop, Shepparton, Vic
27-29  .  Dalby Cattle Assessment School, Dalby, Qld
30  .  Getting the most from Breedplan workshop, Albury, NSW
TBC  .  .  .  .  .  South and Central Qld Beef Weeks
AUGUST
1-2  .  .  .  Mallee Machinery Field Days, Speed, Vic
3  .  .  .  .  .  MLA “Breed-Up Forum”, Injune, Qld
4  .  .  .  .  .  .  NYngen Ag Expo, NYngen, NSW
6-7  .  Eyre Peninsula Field Days, Cleve, SA
7-9  SA Cattle Assessment School, Keith, SA
9-18  .  Royal Queensland Show, Brisbane, Qld
9-18  .  AgForce MEATing Centre, Brisbane Ekka, Qld
10  .  .  .  .  Sant Gertrudis AGM, Brisbane, Qld
11-18  .  World Angus Secretariat, Ireland
15-22  .  Grazing for Profit School, Wagg Wagga, NSW
17  .  .  .  .  Simmental Group Breedplan cut-off
20-21  .  Cattle Council of Australia Meeting, Canberra, ACT
21-23  .  .  .  .  Ag-Quip, Gunnedah, NSW
28  .  .  .  .  MLA “Breed-Up Forum”, Rockhampton, Qld
28-30  .  .  Dowerin Field Days, Dowerin, WA
28  .  Getting the most from Breedplan workshop, Northam, WA
29-31  .  American Angus Assoc: National Conferene & Tour, USA
30  .  MLA “Breed-Up Forum”, Emerald, Qld
30  .  Getting the most from Breedplan workshop, Kojonup, WA
TBC  .  .  .  .  .  .  North Qld Beef Weeks
SEPTEMBER
4-6  .  .  .  .  .  Ag Show, Toowoomba, Qld
6-7  .  Newdegate Field Days, Newdegate, WA
7-8  Farmarama, Lismore, NSW
7-15  .  Royal Adelaide Show, Adelaide, SA
10  .  Getting the most from Breedplan workshop, Orange, NSW
12  .  Getting the most from Breedplan workshop, Goulburn, NSW
13  .  Getting the most from Breedplan workshop, Cooma, NSW
17  .  .  .  .  .  Charbray National Sale, Rockhampton, Qld
18-19  .  National Droughtmaster sale, Gracemere, Qld
18-20  .  Henty Machinery Field Days, Henty, NSW
20-30  .  Royal Machinery Show, Melbourne, Vic
20-21  .  Mingnew Field Days, Mingnew, WA
21-22  .  Symposium: Adaptation & Fitness in Animal Populations,
Armidale, NSW
24-26  .  Assoc. for Advancement of Animal Breeding & Genetics
Conf, Armidale NSW
25-27  .  Yorke Peninsula Field Days, Paskeville, SA
27-2  .  Bio-Business Farming School, Toowoomba, Qld
28  .  .  .  .  .  Dalby Cattle Assessment School, Dalby, Qld
29  .  .  .  .  .  Southern Beef School, Glenormiston, Vic
30  .  .  .  .  .  MLA “Breed-Up Forum”, Tenement Creek, NT
2007 Calendar of Events