BREEDPLAN’s World Leading Services Expand

As it has done for several decades, BREEDPLAN continues to provide world leading genetic evaluation services to the beef industry. In addition to the high uptake in Australia, the adoption of BREEDPLAN products by countries around the world has continued in recent years with breeders in 14 countries now utilising BREEDPLAN for their genetic evaluation. These countries include Australia, New Zealand, Thailand, the Philippines, Malaysia, the United States, Canada, the United Kingdom, Hungary, Chile, Argentina, Uruguay, Namibia and South Africa.

Coupled with the increase in the adoption of BREEDPLAN, the services offered continue to expand with an exciting new range of products recently released. The most significant of these is the modification to the BREEDPLAN software to enable the calculation of Marker Assisted EBVs, culminating in the release of Trial Shear Force EBVs for Australian Brahman animals in October 2008. This ability to combine DNA information with available pedigree and performance information to calculate EBVs of higher accuracy is an important step for the beef industry and an integral part of enabling seedstock producers to make the most use of DNA technology as it develops.

TakeStock, a new benchmarking tool for the beef seedstock industry, was made commercially available in January 2009 after an extensive field testing and training process. TakeStock provides beef cattle breeders with an invaluable tool that can be used to assess and improve the rate of genetic progress in a herd.

An “Inbreeding Calculator” has been made available as an enhancement to the “Mating Predictor” facility that is available on the internet. The “Inbreeding Calculator” enables seedstock producers to determine the level of inbreeding that would occur from any particular mating, hence providing a useful tool in the monitoring of inbreeding levels within a seedstock enterprise.

In response to the threat posed to the seedstock industry by genetic defects, a product known as “GeneProb” is being offered by BREEDPLAN. “GeneProb” enables seedstock producers to assess the likelihood that animals carry the recessive genes that are associated with a particular genetic disorder. This product is currently being used by Angus Australia to display the likelihood that each individual animal recorded on their database has recessive genes for Arthrogryposis Multiplex (AM).

We hope you enjoy this edition of BREEDPLAN News and extend a warm invitation to all members of the beef industry to join us at the BREEDPLAN stand at Beef 2009 to discuss all the latest BREEDPLAN products and services that are available.

Historic Moment: The first bull sold with above breed average Marker Assisted EBVs for Shear Force at Brahman Week, October 2008
Developed of Marker Assisted EBVs

In a first for the Australian beef industry, the Animal Genetics & Breeding Unit (AGBU) has developed the methodology to combine the pedigree and performance information of an animal with gene marker information to calculate a single Marker Assisted EBV (EBVM). Managing Director of the Agricultural Business Research Institute (ABRI), Arthur Rickards said the development of Marker Assisted EBVs represented a significant advancement in genetic evaluation in this country.

The development of Marker Assisted EBVs was an outcome from the SmartGene for Beef project, which was a collaborative R&D project between Pfizer Animal Genetics (previously Catapult Genetics), Beef Genetic Technologies CRC, the Animal Genetics and Breeding Unit (AGBU), the Agricultural Business Research Institute (ABRI), Meat and Livestock Australia (MLA), Cornell University and Breedlink Pty Ltd. The Queensland Government also provided co-funding.

Resulting from the development of this methodology, the first BREEDPLAN Marker Assisted EBVs were released with the launch of Trial Shear Forces EBVMs (formerly Trial Tenderness EBV M) by the Australian Brahman Breeders Association at Brahman Week in early October. The Trial Shear Force EBVMs provide estimates of genetic differences between animals in meat tenderness and are expressed as differences in the kilograms of shear force required to pull a mechanical blade through a piece of cooked meat.

The Trial Shear Force EBVMs were produced for a total of 22,052 Brahman animals with EBVMs ranging from -0.98 kg.

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- BREEDPLAN Analytical Changes
- BreedObject Developments
- Coordinated National Extension
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INFORMATION USED TO CALCULATE TRIAL SHEAR FORCE EBVMs

- Pedigree
- Performance Information
  - Shear Force
  - Flight Time
- Gene Markers

BREEDPLAN software has been developed by the Animal Breeding and Genetics Unit (AGBU), a joint venture of the University of New England and NSW Department of Primary Industries, with support from Meat and Livestock Australia (MLA).
to +1.36 kg, with lower, more negative, Trial Shear Force EBV’s indicating that less shear force would be required and hence the meat is more tender. The spread in EBV’s of over 2 kg of shear force indicated that significant differences exist in the genetics of the Brahman animals for meat tenderness and importantly, demonstrates that considerable improvement in meat tenderness can be achieved through careful selection on breeding animals using the Trial Shear Force EBV’s.

Three different sources of information were used when calculating the Trial Shear Force EBV’s. The first source of information was shear force measurements, an objective measure of meat tenderness. To measure shear force, meat samples were collected from the carcases of animals and the amount of force required to pull a mechanical blade through the meat measured in a laboratory. The second source of information was the gene markers for tenderness, while the third source of information was flight time measurements. Flight time is the time taken for an animal to travel approximately 2 metres after exiting the crush, as measured by two light beams. While not a direct measure of tenderness, tropically adapted cattle with slower flight time (i.e., better temperament) have been shown to have more tender beef.

While Trial Shear Force EBV’s have only been produced for Brahman animals at this stage, moves are under way to calculate similar EBVs for a number of other breeds. Development is also continuing to look at the inclusion of DNA information in the calculation of Marker Assisted EBVs for other traits.

Arthur Rickards said that the results from both the SmartGene for Beef project and recent independent investigation by AGBU into the new MVPs that have been released by Pfizer Animal Genetics, clearly indicate that the optimal way for the seedstock industry to make use of gene marker technology is through combination with existing genetic evaluation programs such as BREEDPLAN. Arthur did stress however that gene marker information will only be included in the calculation of EBV’s when independent industry validation has demonstrated that the gene marker is useful for genetic evaluation. Furthermore, the contribution that the gene marker makes to the EBV is likely to differ between breeds and will be determined by industry validation for such things as the frequency and phenotypic effect of the gene marker in that breed.

Further information on Trial Shear Force EBV’s is available from the Tip Sheet page in the Technical area of the BREEDPLAN website (http://breedplan.une.edu.au). A more detailed technical document is also available from the SmartGene area of the AGBU website (http://agbu.une.edu.au).
GeneProb is a new product that has recently been offered by ABRI. GeneProb was developed by Prof Brian Kinghorn and Dr Richard Kerr at the University of New England and utilises the basic principles of inheritance to estimate the probabilities of specific genes being present in a wider, related population than the DNA tested animals. Hence it is ideally suited to Breed Society databases where pedigree relationships have been collected over many generations.

GeneProb can be used to track lethal recessive genes like Arthrogryposis Multiplex (AM) and also for genes of interest like the red/black gene, genes for horn/poll, etc. In addition, Angus Australia, the Australian Brahman Breeders Association, ABRI and Meat and Livestock Australia also have undertaken a joint project to look at using GeneProb on production markers (eg Tenderness genes) while developing protocols to maximise DNA test information.

GeneProb - The Angus Australia Experience

DNA test results are never cheap – especially when you run them one at a time as the Angus Australia (AA) was forced to do when the DNA test for Arthrogryposis Multiplex (AM), a lethal recessive gene, became available in Australia. As Carel Teseling, Breed Development Manager of AA commented: “When you consider that we have over 1.2 million animals in our database and we started with only a couple of hundred animals with DNA test results, we needed something to help us focus on the animals that needed testing - rather than just blindly testing all animals. We needed something to maximise the usefulness of the DNA test results we had. Fortunately for us, Prof. Brian Kinghorn, Dept Animal Science at the University of New England, had already developed GeneProb - an application that uses the known test results to calculate the probability of untested animals being carriers.” Not only was GeneProb developed, but ABRI and the UNE quickly organised a world wide licence agreement for ABRI to run GeneProb. It was quickly implemented into ABRI’s pedigree recording system with the results automatically updating onto the Internet Solutions Animal Enquiry system, as well as making each herd’s results available as a download from the web. Several reports have been developed in conjunction with AA to monitor new results loaded onto the database since the previous analysis. Monitoring new results is critical to ensure the integrity of sample collection and accuracy of pedigree information used for the GeneProb analysis. “This quick response to the AM problem has meant that both bull sellers and bull buyers can go into the next bull selling season with the confidence of having the latest AM status on all animals up for sale – and this information is updated on the web on a weekly basis as new test results come in”. “We were very pleased with ABRI and UNE’s exceptionally quick response to AA’s request for the development of the software and are convinced that the software will, in future, benefit many other organisations through ABRI’s international presence.” Angus has tackled the AM problem head on – and Angus Australia is leading the way with having an AM Status on all 1.2M animals in the database.

For more information on GeneProb, contact Jack Allen, Technical Director, ABRI on 02 6773 3555 or email jack.allen@abri.une.edu.au.
The concept of tracking a gene through a population is reasonably straightforward. Genes occur in pairs and generally have 2 forms (let’s call them A1 and A2). These are called alleles. Where available, a DNA test will specify which alleles an animal actually has. When an embryo is formed, it gets one allele of the gene from its father and one from its mother. Where both alleles are the same (eg A1A1 or A2A2), they are called homozygous. In this case, the animal will always pass on this allele to the next generation. Where the alleles are different (ie A1A2 or A2A1), they are called heterozygous and there is an equal chance of passing on either allele to the next generation.

GeneProb uses a segregation analysis to calculate probabilities of which alleles an untested animal will have. The complex analysis allows for pedigree relationships, gene frequencies within the populations and makes allowance for unequal effects of the genes (for example, the A2A2 form of the AM gene causes the animal to die at birth). GeneProb also calculates a Gene Probability Index (GPI) which indicates how much information was available to estimate the probability (much like an accuracy of an EBV). All animals in the target database get gene probabilities and GPIs.

Better Female Fertility Data

For some time BREEDPLAN has calculated an EBV for the female fertility trait “Days to Calving”. This is based on natural mating records and is the time from when a bull is first put with a cow until she subsequently calves. It does not account for variation in gestation length or what point in her cycle the cow was when the bull went into the paddock, but it generally sorts those cows which get into calf on their first cycle, second cycle, etc or do not conceive during the joining period.

The natural mating information that is utilised in the “Days to Calving” analysis is currently collected using the standard calf registration forms or electronic registration methods where there is provision to include the joining data for the next mating. The BREEDPLAN computer then links this mating information to the birth date of the subsequent calf when it is submitted the next year. This method of collecting joining data has proved to be less than adequate because some breeders do not submit joining data, some only report the successful or final joining and in some cases the data is reported after a pregnancy test so that the very important joining data for the empties is not reported. In addition, the data for cows mated by AI is not currently used to calculate the Days to Calving EBV largely because not enough detail is known about the AI programs used and information on which cows went into each program is incomplete. The inability to use AI data causes a major loss of potentially useful information due to the high level of AI in many herds.

In order to collect female fertility information more effectively, changes are in the process of being made to both the mating information that is required and the manner in which this mating information is collected. Details of these changes will be circulated once the alterations have been made to the Breed Society databases to enable the storage of the revised female fertility information.
Inbreeding Calculator

To assist in the monitoring of inbreeding within the seedstock industry, the “Mating Predictor” facility that is available as part of ABRI’s Internet Solutions Enquiry System has been enhanced to facilitate the calculation of the inbreeding coefficient (plus details on the depth of pedigree available) for progeny from a specified mating. This provides seedstock breeders with an invaluable tool that enables them to carefully analyse and control the level of inbreeding that exists within their breeding animals.

A number of other enhancements have also been made to the Mating Predictor including:

- Calculation of expected EBV accuracies (to go with the expected EBVs currently available) for progeny from a specified mating
- Calculation of expected selection index values from a specified mating
- Full pedigree display of the animals specified in the mating.
- Display of expected EBV and selection index graph against the percentiles bar chart for the progeny from a specified mating.

The enhancements to the Mating Predictor are currently only available within the Internet Solutions facility for the Blonde d’Aquitaine Society of Australia and New Zealand. This can be accessed from the Database Search area on the BREEDPLAN website. These enhancements will now be implemented into the Mating Predictor for other Breed Societies, when other Breed Societies opt to take advantage of these developments.

Table 1 gives inbreeding coefficient percentages for various relationships.

<table>
<thead>
<tr>
<th>RELATIONSHIP</th>
<th>INBREEDING COEFFICIENT(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal mated to its own parent (eg Sire/daughter)</td>
<td>25%</td>
</tr>
<tr>
<td>Half sib matings (parents have a common sire or dam)</td>
<td>12.5%</td>
</tr>
<tr>
<td>Full sib matings (parents have common sire and dam)</td>
<td>25%</td>
</tr>
<tr>
<td>Animal has a single common great grand parent</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

* Will be higher if ancestors are themselves inbred

One limitation on calculating inbreeding coefficients is the depth of pedigrees available. Deeper pedigrees will result in a more accurate calculation of the inbreeding coefficient. Animals with a shallow pedigree may have a low inbreeding coefficient simply because their related ancestors are not on the database. To take account of this, the Mating Predictor provides two numbers next to the inbreeding coefficient to indicate the minimum pedigree depth and the average depth of pedigree used in the calculation of the inbreeding coefficient.
The latest product from the BREEDPLAN suite of genetic tools was made commercially available in January 2009. Known as TakeStock, the new product is a powerful new benchmarking tool for the beef seedstock industry. TakeStock collates all available BREEDPLAN and Selection Index information to provide beef cattle breeders with a tool that enables them to assess and improve the rate of genetic progress in their herd.

TakeStock has been available on a trial basis for the past few years as part of a comprehensive field testing program and has been well received by all seedstock producers. Demonstrating the popularity of this exciting new product, approximately 50 herds have already signed up to receive TakeStock reports for their operation on an ongoing basis.

**What does TakeStock do?**

TakeStock enhances the ability of breeders to manage genetic change. It enables seedstock breeders to focus on the key variables affecting the rate of genetic gain being made for the particular breeding objective of their commercial clients.

TakeStock uses the pedigree and performance information that has been recorded with each Breed Society to:

- Provide a range of statistics relating to the genetic structure of the breed and individual herds.

- Evaluate the rate of genetic progress that has been made by the breed and the individual herds within it. To do this, TakeStock assesses the genetic progress that a herd has made for each Selection Index and benchmarks the individual herd’s progress with the genetic progress that has being made by the breed as a whole.

- Determine the key factors that explain significant differences in the rate of genetic progress between herds within a breed across a given period of recent years. These factors are known as Key Performance Indicators (KPIs) and help breeders identify the type of factors that had the greatest impact on the rate of genetic progress made by herds within their breed. Herds are rated for their performance against each KPI to benchmark the performance of their breeding program.

**What Benefits does TakeStock have for Individual Herds?**

TakeStock enables individual seedstock herds to:

- Benchmark the rate of genetic progress being made by their herd for each Selection Index against the average progress of other herds within their breed.

(Continued on page 9)
New EBV - Structural Soundness

Trial Structural Soundness EBVs have recently been produced for Angus Australia. The Trial EBVs for Angus were produced from structural score information that has been recorded by accredited scorers on over 6,000 Angus animals. These scores have been recorded as far back as 1996, with the majority of scores recorded since 2004.

**Interpreting Trial Structural Soundness EBVs**

Trial Structural Soundness EBVs are provided for five important structural traits:

- **Front Feet Angle (FA)**
- **Front Feet Claw Set (FC)**
- **Rear Feet Angle (RA)**
- **Rear Leg Hind View (RH)**
- **Rear Leg Side View (RS)**

Trial Structural Soundness EBVs are reported as an estimate of genetic differences between animals in the percentage of progeny that will have a desirable score for a particular structural trait.

Higher Trial Structural Soundness EBVs are more favourable. That is, higher EBVs indicate a greater percentage of progeny with a desirable score for that particular trait. For example, a bull with a Front Feet Angle EBV of +25.3 would be expected to on average produce 41% more progeny with desirable front feet angle than a bull with an EBV of -56.1 [i.e. 25.3 – (-56.1) x ½].

Animals with very low (i.e. negative) EBVs for each trait are identified with an additional flag to indicate the nature of their structural fault.

- Front Feet Angle & Rear Feet Angle EBVs are identified with a flag of “ST”, indicating increased probability of steep feet angle and “SH”, indicating increased probability of shallow feet angle.
- Front Feet Claw Set EBVs are identified with a flag of “OD”, indicating increased probability of open divergent claws and “SC”, indicating increased probability of scissor claws.
- Rear Leg Hind View EBVs are identified with a flag of “BL”, indicating increased probability of bow legged rear legs and “CH”, indicating increased probability of cow hocked rear legs.
- Rear Leg Side View EBVs are identified with a flag of “SR”, indicating increased probability of straight rear legs and “SI”, indicating increased probability of sickle hocked rear legs.

**Information used to calculate Trial Structural Soundness EBVs**

The Trial Structural Soundness EBVs were calculated from structural scores that had been recorded on animals when the animals were younger than 750 days of age. Only one set of structural scores were included in the BREEDPLAN analysis for each animal and scores that had been taken on mature cows were excluded from the analysis.

Within the BREEDPLAN analysis, the structural scores were grouped into three categories. Category 1 (CAT 1) grouped low scores to represent one form of undesirable feet and leg structure and Category 3 (CAT 3) grouped high scores to represent the other form of undesirable feet and leg structure in each trait. Category 2 (CAT 2) was to represent animals with the desirable score. For example, CAT 1 of FA grouped all animals with scores 1-4 (i.e. STEEP), CAT 2 grouped scores 5 and 6 (i.e. desirable) and CAT 3 grouped all scores 7-9 (i.e. SHALLOW) see figure 1 for diagrammatic representation.

A univariate threshold model (similar to the BREEDPLAN evaluation of calving ease) was used to estimate breeding values for each of the five structural traits. The model included contemporary group and age classes as fixed effects and animal effect and residual error as random effects. Contemporary groups were similar to those in BREEDPLAN including breeder defined management group, herd, sex, month of weighing subclass, birth type (single vs. twin), the breed type of the recipient dam for embryo transfer, age class of dam (heifers at 28 months or less at calving, vs. cow at older than 28 months.)

![Figure 1. Diagramatic Representation of categories for front feet angle](image-url)
at calving), previous weight management group and structural trait management group. Animals with ages (at structural trait recording) below 465 days, 465 to 505 days, 506 to 545 days, 546 to 585 and above 586 were grouped into five age classes. Heritabilities estimates of 0.22, 0.22, 0.21, 0.18 and 0.12 for FA, FC, RA, RH and RS respectively, were used to predict the EBVs.

**Selecting Animals with Trial Structural Soundness EBVs**

The calculation of Trial Structural Soundness EBVs provides Angus beef producers with the ability to produce progeny with more desirable structure for a range of important feet and leg traits.

However, while the Trial Structural Soundness EBVs provide an indication of likely differences in the structural soundness of the progeny from an animal available for use within a breeding program, it is important to remember that the structural scores that have been recorded for the animal itself should also be used to assess the current feet and leg soundness of the animal. For example, a young bull may have EBVs that indicate an acceptable percentage of progeny will be produced with desirable structure, but his own score may indicate he is susceptible to breakdown if joined. Therefore both the Trial Structural Soundness EBVs and the actual structural scores should be considered when evaluating animals for use within a breeding program. It is also important to balance selection for structural soundness with selection for other economically important traits.

For more information regarding Trial Structural Soundness EBVs or the recording of structural score information, please contact staff at the BREEDPLAN office.

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**TakeStock Now Available (continued from page 7)**

- Identify the variables that are significantly influencing the rate of genetic progress across herds for a particular Selection Index
- Make changes to their breeding program to increase the rate of genetic progress that is being made by their herd.

Ultimately, TakeStock provides seedstock producers with the opportunity to assess whether the genetics in their herd will continue to be competitive in the future.

**Can a TakeStock Report be produced for all herds?**

As TakeStock evaluates the rate of genetic progress being made over a certain time period for a particular Selection Index, a TakeStock report cannot be generated for all herds. In general, herds must meet the following eligibility criteria:

- be a current member of BREEDPLAN
- be a member of a breed that has at least one Selection Index

TakeStock reports are being provided on an ongoing basis to seedstock herds that have enrolled to receive TakeStock reports. These reports are being provided in several forms:

- an electronic copy of the TakeStock report is being made available via the member login facility on Internet Solutions following each GROUP BREEDPLAN analysis that is conducted for the breed
- a paper copy of the TakeStock report will be produced and mailed once a year, usually following the main GROUP BREEDPLAN analysis that is conducted for the breed.

Members also have access to day to day phone and email support from the BREEDPLAN team.

**How can you access a TakeStock report for your herd?**

TakeStock is only available at this stage to seedstock herds within Australia. Australian seedstock producers interested in accessing a TakeStock report for their herd should contact staff at the BREEDPLAN office for further information.

It is expected that TakeStock will be soon be available internationally. Further information about the availability of TakeStock will be circulated in these countries at this time.
New EBV - Flight Time

Trial Flight Time EBVs have recently been produced for the Santa Gertrudis Breeders (Australia) Association and Australian Brahman Breeders Association. Flight time is a simple, cost effective and easy to record objective measurement of temperament. Research has shown that in addition to the obvious benefits for ease of handling and management, animals with longer flight time (ie. superior temperament) also have superior meat tenderness.

The Trial EBVs for Santa Gertrudis were produced from over 5,000 flight time measurements that had been collected on Santa Gertrudis animals by participating members, whereas the Trial EBVs for Brahman were calculated using 4,737 flight time measurements that had been collected on Brahman animals by both the Beef CRC and individual members.

Interpreting Trial Flight Time EBVs

The Trial Flight Time EBVs that have been produced provide an estimate of genetic differences between animals in temperament. Trial Flight Time EBVs are expressed as differences in the number of seconds taken for an animal to travel approximately 2 metres after leaving the crush.

Higher (ie. Longer) Trial Flight Time EBVs are more favourable. That is, higher EBVs indicate a longer time taken to exit the crush and hence better temperament. For example, a bull with an EBV of +0.80 would be expected to on average produce progeny that took 0.7 of a second longer to exit the crush than a bull with an EBV of -0.60.

Information used to calculate Trial Flight Time EBVs

The Trial Flight Time EBVs were calculated from flight time measurements that had been recorded on Brahman and Santa Gertrudis animals using specialised flight time equipment. Animals were held individually in the crush for a short period and then the head bail opened. Two light beams were then used to objectively measure the time taken for the animal to travel approximately 2 metres at the exit of the crush (see picture above). Flight time measurements were recorded early in an animal’s life, usually at or around weaning.

Selecting Animals with Trial Flight Time EBVs

The calculation of Trial Flight Time EBVs provides Santa Gertrudis and Brahman beef producers with the ability to produce progeny with longer flight time and hence improved temperament. These animals are also likely to exhibit superior meat tenderness.

While most producers will already be selecting for temperament by culling animals from their breeding herd that exhibit poor temperament, Trial Flight Time EBVs provide several additional advantages. These advantage include:

- Bloodlines that are producing progeny with very good temperament versus those producing progeny with less acceptable temperament will be identified.
- Sires and dams which may well be quiet themselves but are producing an unacceptable proportion of flighty
calves will be identified more easily and can be culled from the breeding herd.

> Trial Flight Time EBVs can be used to improve other “related” traits that may be hard to measure directly. For example, research trials have shown that animals with longer flight time (i.e. superior temperament) also have superior meat tenderness.

While Trial Flight Time EBVs do provide these advantages over current selection methods, it is important to remember that:

> Selection for improved temperament (i.e. longer flight time) should be balanced with selection for other economically important traits.

> Always consider the accuracy of the Trial Flight Time EBVs. It is important to remember that EBVs with low accuracy may change considerably with the addition of more information. As the EBVs are Trial EBVs, they may also change with improvements in analytical techniques. Further information on accuracy is contained in the BREEDPLAN tip sheet “Interpreting EBV Accuracy”.

> If both Trial Flight Time EBVs and Trial Shear Force EBVs are available and the objective of producers is to select animals that will improve meat tenderness, then Trial Shear Force EBVs should be used as the primary selection tool. While flight time measurements will be included in the calculation of both the Trial Flight Time EBVs and Trial Shear Force EBVs, the calculation of the Trial Shear Force EBVs will also include any shear force measurements and gene marker information that is available and consequently the Trial Shear Force EBVs will be a better indication of an animal’s genetics for tenderness than the Trial Flight Time EBVs.

For more information regarding Trial Flight Time EBVs or the recording of flight time information, please contact staff at the BREEDPLAN office.

NEW BREEDPLAN WEBSITE

The BREEDPLAN website (http://breedplan.une.edu.au) has recently been completely redeveloped into a more user friendly and up to date website.

The new website contains an extensive range of important information regarding BREEDPLAN and related genetic technologies. Manager of the BREEDPLAN team at ABRI, Steve Skinner said of particular note is the “Technical” section that includes a number of brochures, tip sheets and booklets that are designed to help members with their BREEDPLAN recording requirements. Also included is a “Breed Specific Documents” area that includes information specific to each Breed Society, such as current breed average EBVs and percentiles tables. Steve stressed that the “Technical” section is continually updated and is the best place for members to access any information relating to BREEDPLAN.

Other useful sections on the new website include the “Database Search” and “Member Login” pages that direct users into the Internet Solutions facilities for over 80 Breed Societies around the world, and the “Latest News” section that contains all the latest BREEDPLAN news and events.

Any feedback on the new website is welcome and can be sent to breedplan@abri.une.edu.au.
Internet Solutions

Continues to Grow

Internet Solutions, the name given to a range of internet based services offered by ABRI, has continued to grow over recent years. Internet Solutions services are now offered by 83 different beef cattle Breed Societies across Australia, New Zealand, America, South Africa, Namibia and the United Kingdom, while another 28 organisations from other species such as dairy cattle, goats, deer, sheep, horses and alpacas have also adopted Internet Solutions services.

In addition to the number of organisations offering Internet Solutions, the range of services available have continued to expand over recent years with both additional functionality built into existing services and a number of new services added to the Internet Solutions package. Examples of the services now available include:

**Member, Animal & EBV Enquiry**
This facility provides users with the ability to access a complete electronic herdbook for a particular Breed Society. Users have access to a range of member, animal & EBV information while the powerful search engine allows quick and easy access to information. This facility has been available since the early days of Internet Solutions and continues to be popular due to its extremely user friendly and easy to use nature.

**Sale Catalogues**
Online sale catalogues are made available for single-vendor auction, multi-vendor auction and private treaty sales. As with the enquiry facilities, a powerful search engine has also been incorporated that provides bull buyers with powerful search and enquiry capabilities both within a particular catalogue and across different catalogues. Demonstrating the uptake of the online sale catalogues, in a recent press release, Angus Australia noted that an online sale catalogue would be made available for almost 100% of the 180 bull sales conducted by Australian Angus members each year. This represents over 7,500 bulls. Indications are that bull buyers are flocking to the online sale catalogues prior to attending bull sales with an expected 200,000 page hits on the sale catalogues.

**Semen Catalogues**
Similar to sale catalogues, online semen catalogues are made available providing a valuable service to the AI industry. Similar search functionality to the sale catalogue facility allows quick and easy selection of possible AI sires.

**Mating Predictor**
The mating predictor is a simple EBV calculator. Users can specify a mating or range of matings and this facility will calculate the expected EBVs of the progeny. Recent enhancements have been made to include an inbreeding calculator that calculates expected levels of inbreeding from particular matings.

**File Download**
This facility allows individual breeders to access a secure member specific area where they can download a range of files that have been prepared for them by either their Breed Society or the BREEDPLAN office.

**Online Transactions**
The latest addition to the services available within Internet Solutions has been the ability for users to electronically submit a range of information to their Breed Society or BREEDPLAN office. Specifically, users have the ability to enter calf recording and registration details, inventory updates and cow fates, and performance information.
Uptake of these services has been very encouraging and continues to increase as time progresses. One of the Breed Societies to adopt the “Online Transactions” facility has been the Australian Limousin Breeders Society. In 2008, 34.6% of their 7000 calf registrations were submitted using Internet Solutions.

Reflecting the demand for Internet Solutions services the number of page hits recorded by users of these services reached a high of over 29 million hits during the 2008 calendar year. This is a phenomenal number and represents a doubling of activity in the last 5 years. The increase in page hits since 2001 are included in Figure 1. All indications are that this number will continue to grow over the coming years.

For further information about the Internet Solutions services available for your breed, please contact your Breed Society.

Revisions to Trial Net Feed Intake EBVs

The Animal Genetics & Breeding Unit (AGBU) has recently conducted major research into feed efficiency and the calculation of the trial Net Feed Intake EBV (nb. currently only available for Hereford, Angus & Shorthorn animals). This research resulted in several major findings, including:

- Net Feed Intake (NFI) when measured in young animals post weaning appears to be a different trait to when NFI is measured in feedlot finished steers. Whilst there is a positive relationship between the two traits, some animals do rank differently. Consequently, two trial NFI EBVs are now being calculated as opposed to the single trial NFI EBV that was available previously. The new trial EBVs have been titled NFI-P (Post Weaning) & NFI-F (Feedlot Finishing). It is still not known how either of the NFI traits relate to feed efficiency in mature cows.

- The relationship between NFI & the levels of Insulin Like Growth Factor (IGF-1) in the blood is significantly lower than the initial research suggested. In addition, there is a different relationship between IGF-1 and the two NFI traits (ie. post weaning v’s feedlot finishing).
BREEDPLAN Analytical Changes

Over time, improvements are regularly made to the analytical software that is utilised by BREEDPLAN as additional research and development is completed. These changes all result in the calculation of more reliable EBVs and are an integral part of BREEDPLAN remaining as a world leader in the provision of genetic evaluation services. Recently, there have been several advances made as part of the evolution of the BREEDPLAN analysis.

Enhancements to BREEDPLAN software

A number of enhancements have been implemented over recent months to the BREEDPLAN software that is utilised by most breeds. Similar enhancements are scheduled for implementation into the BREEDPLAN analysis for the remaining breeds over the coming months. These enhancements will all result in the calculation of improved BREEDPLAN EBVs. The enhancements include:

Improved calving ease analysis

The calving ease analysis has been modified to include additional depth in the pedigree information. This is to overcome limitations in pedigree structures that are associated with incomplete recording of calving difficulty scores. Calving Ease EBVs will change significantly for some individual animals.

Several other changes will also be implemented in individual breeds such as re-estimated adjustment factors and genetic parameters, revised handling of overseas EPD information and updating of the genetic base to a more recent group of animals.

Changes to TransTasman Angus Carcase Analysis

A number of changes to the way abattoir carcase information is handled were implemented into the January 2009 TransTasman Angus BREEDPLAN analysis. Note that these changes only relate to carcase records collected in abattoirs. They do not relate to information collected using ultrasound scanning records.

1. Changes to Data Included

A number of progeny test carcase (abattoir) data sets that were collected on Angus animals since 2006 and previously withheld from the GROUP analysis have now been included. In addition, any USDA-type marble scores that had previously been recorded were now included in the
analysis (nb. Only MSA marble scores were previously analysed by BREEDPLAN.)

Conversely, some historic carcase data that was previously included in the Angus analysis will now cease to be included:

> rump fat values in kill groups that appear to be classed, rather than measured;
> all carcase rib fat measurements since Jan 2001 (due to likely effects of fat trimming);
> some apparent non-MSA marble scores (submitted as being MSA).

Angus sires with progeny carcase (abattoir) data, and their relatives, are the most likely individuals to be affected by these changes in the carcase data.

**Revision to adjustment factors and genetic parameters**

The amount of carcase information collected in heavier carcases (>400kg) has increased significantly in recent years for Angus animals. This has resulted in new adjustment factors being needed for the Angus breed for carcase weight, eye muscle area, rib fat, rump fat, retail beef yield and intra-muscular fat, to ensure that more appropriate adjustments of carcase traits at the heavier end of the weight spectrum are being made. All genetic parameters of relevance to carcase traits have been re-estimated. New heritabilities were implemented for the carcase traits, along with new estimates of the correlations amongst them. In addition, new correlations between ultra-sound scanning traits and the carcase traits were also implemented.

These new adjustment factors and genetic parameters will directly influence Angus carcase trait EBVs, as will the use made of ultra-sound scanning records as indicator traits of carcase merit. Accuracies will also be affected, due to changes in genetic variances and the revised influence of correlated (scanning) traits.

**Expansion of BREEDPLAN Services**

In addition to the above software changes, several Breed Societies have recently expanded the BREEDPLAN services that are offered to their members.

Both Herefords Australia and the Santa Gertrudis Breeders (Aust) Association will now conduct an additional GROUP BREEDPLAN analysis each year. The additional GROUP BREEDPLAN analysis for Hereford will be conducted in August, bringing the total number of GROUP BREEDPLAN analyses conducted annually for Hereford to 4, whereas the additional GROUP BREEDPLAN analysis for Santa Gertrudis will be conducted in February, bringing the total number of GROUP BREEDPLAN analyses conducted annually for Santa Gertrudis to 2.

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**Two More Australian Breeds Sign on with BREEDPLAN**

Both the Mandalong Specials Cattle Association of Australia and the Australian Speckle Park Association have joined the long list of Australian breeds that are conducting genetic evaluations with BREEDPLAN. Initially, Mandalong Specials and Speckle Park members will be able to access a Within Herd BREEDPLAN analysis for their herd. Once sufficient pedigree and performance data has been recorded, the feasibility of conducting a GROUP BREEDPLAN analysis for these breeds will be investigated.

BREEDPLAN wishes to extend a warm welcome to both organisations and looks forward to providing a comprehensive genetic evaluation service to their members. For further information about either Mandalong Specials BREEDPLAN or Speckle Park BREEDPLAN, please contact staff at the BREEDPLAN office.
Across Country Selection Indexes

The BreedObject website (www.breedobject.com) has recently been modified to enable selection indexes to be viewed on animals of the same breed that are recorded with an overseas Breed Society.

This facility provides a powerful enhancement for marketing and selecting animals across countries. For example, breeders can access selection index values relevant to their production system on overseas animals that they may be interested in, while secondly, breeders can provide selection indexes for their animals that are relevant to an overseas production system to any interested international clients.

To provide members with more detailed information regarding how to view across country Selection Indexes, a tip sheet has been compiled (titled Across Country Selection Indexes). The tip sheet is available from either the Tip Sheet page within the Technical area on the BREEDPLAN website (http://breedplan.une.edu.au) or by contacting staff at BREEDPLAN.

When viewing across country selection indexes, there are a number of important considerations that should be made.

> Where the two Breed Societies have been analysed in the same BREEDPLAN analysis (eg. Trans Tasman BREEDPLAN evaluation), the Index values are directly comparable across the countries because the EBVs are directly comparable. That is, the Australian Selection Index calculated for a New Zealand animal is comparable to the same Index value calculated for an Australian animal. Hence, you can rank New Zealand animals based on an Australian Index and also see how these New Zealand animals compare to Australian animals. Similarly you can rank Australian animals on the New Zealand Selection Indexes.

> Conversely, Selection Indexes are not comparable across countries where the EBVs for animals have been calculated in separate BREEDPLAN analyses (eg. Australia & United Kingdom, New Zealand & United Kingdom). For example, an Australian Selection Index can be calculated on a number of United Kingdom animals to rank the United Kingdom animals, but these Index values are not directly comparable to the Index values that have been calculated for Australian & New Zealand animals.

> Selection Indexes should be used within the country they were developed for as the Indexes are tailored to the specific market and production systems for that country.

Enhancements to BreedObject Software

An enhanced version of BreedObject software is currently in development. This new version will incorporate the following features:

> Improved feed costing procedures
> Improved accounting for non-linear economic values such as marbling premiums
> Upgrading of matrices to be in line with the genetic parameters used within the BREEDPLAN analysis
> Automated production of ‘green graphs’. This graph shows the movement in traits that will occur if selecting on a specific selection index in a given population of animals.
> Incorporation of Marker-Assisted EBVs.

The new version of BreedObject will be completed shortly. Following this, extensive testing will then be conducted prior to implementation. Re-rankings of animals for each selection index are expected, particularly due to improved feed costing procedures. A workshop is planned in conjunction with the development of the new version in late May 2009 to update relevant Breed Society consultants and technical officers of the expected changes.
Additional Selection Indexes Available

Several Breed Societies in Australia have recently launched selection indexes for the first time. The Red Angus Society of Australia has announced that three selection indexes are now being calculated for Red Angus animals. The selection indexes are titled Supermarket, Vealer and Northern Steer. Belmont Australia has announced that two selection indexes are now being calculated on Belmont animals. The selection indexes are titled Domestic Steer and Export Steer.

These new selection indexes, in conjunction with the launch of a new selection index for the Simmental Cattle Breeders Society of South Africa and several new selection indexes for Breed Societies in the UK, brings the total number of standard breed selection indexes that are calculated by BREEDPLAN to 58. These selection indexes are produced by 24 different Breed Societies across 5 different countries, representing a comprehensive adoption of the BreedObject technology.

In addition to the launch of new selection indexes, the existing selection indexes that are produced for Angus, Hereford, Murray Grey and Limousin animals in Australia have recently been reviewed to evaluate whether the existing selection indexes were appropriate for current beef markets and to ensure that the economic parameters being used in the calculation of the selection indexes reflected the current costs and returns of a commercial beef enterprise.

Several other Breed Societies in Australia and New Zealand are currently conducting similar reviews, while New Zealand Murray Grey, South African Simbrah & Limousin, and Australian South Devon are looking at producing selection indexes for the first time.

WORKSHOP

KNOW YOUR GENES

AN UPDATE ON DNA TECHNOLOGY FOR THE SEEDSTOCK PRODUCER

COME ALONG & LEARN ABOUT

○ DNA basics: What is DNA? What is a gene marker? What is a SNP?

○ Applications for DNA technology in your herd & the advantages/disadvantages it offers over current selection tools

○ The value of the DNA technology that is currently available – an independent assessment.

○ The factors you need to consider before using DNA technology in your herd

Further information on these workshops is available from the SBTS (http://sbts.une.edu.au) or TBTS (http://tbts.une.edu.au) websites
Coordinated National Extension for Genetic Technologies

Cattle breeders in northern and southern Australia have access to a range of extension and technical support services relating to genetic technologies through two similar projects known as Southern Beef Technology Services (SBTS) and Tropical Beef Technology Services (TBTS). Both projects are joint initiatives of Meat and Livestock Australia (MLA), the Agricultural Business Research Institute (ABRI) and relevant Breed Societies.

The broad groups of services offered across both projects are:

1. Individual Producer Support via phone and email correspondence, supplemented by on-property consultation.
2. Breed Society Board and Technical Committee Support.
3. Industry Service Provider Support to groups such as ultrasound scanning technicians, stock agents and state department of primary industry personnel.
4. Workshops for seedstock and commercial cattle breeders which are regularly conducted across all regions of Australia.

Even though SBTS and TBTS are contractually separate projects, in many instances they combine resources to provide a national support network to both the seedstock and commercial sectors of the Australian beef industry. For example, in 2009 SBTS and TBTS will combine resources to run a nation wide workshop series, titled “Know Your Genes”, to update the seedstock industry on DNA Technology (see page 17 for details on this initiative).

Following is further information on each of the projects.

**SOUTHERN BEEF TECHNOLOGY SERVICES**

Southern Beef Technology Services (SBTS) primarily focuses on providing the southern beef industry with hands-on technical support to improve the understanding and uptake of BREEDPLAN and related genetic technologies. The need for the SBTS project was raised at a Strategic Planning Forum held by the Australian Registered Cattle Breeders Association (ARCBA) in August 2004. At this forum, members of ARCBA identified the declining level of beef cattle technical services available in Southern Australia as a major area of concern. In particular, the retirement of Brian Sundstrom (national coordinator of BREEDPLAN field services), the reduction in technical support offered by a number of the major Breed Societies and the decline in funding for DPI beef extension highlighted the need for the development of an effective field support program.

In response, Meat and Livestock Australia (MLA), the Agricultural Business Research Institute (ABRI) and 14 participating Breed Societies representing Hereford, Shorthorn, Charolais, Murray Grey, Limousin, Simmental, Red Angus, Wagyu, South Devon, Devon, Red Poll, Blonde d’Aquitaine, Gelbvieh and Salers combined to develop SBTS. SBTS commenced operation in January 2006 and to date has achieved the following:

1. Delivery of 58 SBTS specific workshops (primarily for the seedstock sector)
2. Involvement in a further 31 broader industry events
3. Education to a combined audience of 3,704 beef breeders or industry service providers

4. Production and distribution of a bi-annual technical newsletter for seedstock producers

5. Production and distribution of a summary report from each BREEDPLAN Technical Liaison Group (BTLG) meeting.

6. Technical support via phone, email or on-property consultation to individual members. 116 on-property consultations have been conducted since the project’s inception.

7. Liaison on technical issues with Breed Society Boards and/or Technical Committees. Several breeds have established technical committees after the recommendation of SBTS.

8. The industry roll out of the new genetic progress benchmarking tool TakeStock®. This included 10 workshops across Australia involving 125 producers. Surveying showed that 87% of participants believed they would increase the rate of genetic progress being made by their herd as a result of the workshop and the information contained within their TakeStock report.

9. The development and/or revision of Selection Indexes for Herefords, Red Angus, Murray Grey, Limousin, South Devon and Charolais.

10. The percentage of BREEDPLAN weight recorded calves has increased from 49% (2003 Base Calving Year) to 56% (2007 Calving Year).

11. An 11.6% and 14.6% increase in the number of bull’s scrotal circumference measured and animal’s ultrasound scanned respectively comparing the 2003 (base) to 2006 calving year.

12. Increases in the range of +6.8% to +18.8% in the BreedObject index of the various breeds over the past three years.

The SBTS project is currently serviced by two full time technical officers, Christian Duff and Andrew Byrne, who are based out of the ABRI office at the University of New England. The team of technical officers is supported by two experienced beef cattle consultants being Bob Freer and Alex McDonald. Both possess over 30 years experience in the beef industry and provide an invaluable resource to the SBTS project.

The SBTS project is in its last year of the current contract with MLA, however at the recent 4th Annual Meeting of the SBTS Stakeholders (19th February 2009) a motion was carried, with unanimous support, to extend the project for a further 4 year term. Meat and Livestock Australia (MLA), the Agricultural Business Research Institute (ABRI) and 12 of the 14 Stakeholder Breed Societies were represented at this meeting.
TROPICAL BEEF TECHNOLOGY SERVICES

The Tropical Beef Technology Services (TBTS) project primarily focuses on providing the tropical beef industry with hands-on technical support to improve the understanding and uptake of BREEDPLAN and related genetic technologies. The TBTS project was initially established due to concern from MRC (now MLA) that research outcomes in beef breeding were not being taken up at an appropriate rate by seedstock breeders in Northern Australia. The TBTS project commenced in 1998 to address this issue and completed its third three-year term in June 2008. During this period the TBTS project has achieved outstanding results which include:

1. Increasing the number of tropical breed calves recorded for at least one post birth weight from 18,510 (1997 drop calves) to 24,794 (2005 drop calves). This is a 34% increase despite severe drought conditions in recent years.

2. Increasing the number of tropical breed BREEDPLAN members from 125 (1998) to 246 (2007). This is a 97% increase.

3. Increasing the percentage of performance data received in electronic format from tropical breed BREEDPLAN herds from 62% in 2001 to 82% in 2005. This was maintained above 80% for 2004, 2005 and 2006 and indicates that the seedstock breeders in Northern Australia have benefited from various training opportunities provided by the project and have achieved a higher level of computer literacy.

4. The development and publishing of Selection Indexes for three of the tropical beef cattle breeds being Brahmans (Grass Fed Jap Ox), Santa Gertrudis (Domestic Production & Export Production) and, most recently, Belmonts (Domestic Steer & Export Steer). Selection Indexes will assist producers to select more profitable genetics for their production environment and market end point.

5. Promoting the use of the internet database search facility for participating Tropical breeds. In the 2006/07 year the number of page enquiries on the web based database searches reached 1,402,031 – indicating how widely the breeding information collected by the tropical breeds is being accessed and used in the North Australian beef industry. This was 50.2% higher than the enquiry rate in 2005/06 showing the spectacular growth rate of this modern information service.

6. The provision of a high level of technical support. An average of 70 on-property visits have been conducted per year with tropical breed seedstock producers (since 2002). They have involved addressing a range of issues pertaining to performance recording for BREEDPLAN including assistance with herd recording programs, addressing data quality issues or assisting herds to start performance recording for genetic evaluation. It is important to ensure that seedstock breeders fully understand the latest breeding technologies so that they disseminate herd-improving genetics to the commercial industry.

7. Recruitment and training of three staff (Christian Duff, Benita Davis and Craig Croker) as Technical Officers. This has provided a specialised and efficient extension service to the Northern beef industry.

8. Facilitation of a range of breeding and genetics workshops or field days. Over 2006 and 2007 the TBTS technical officers presented at 26 workshops or field days in Northern Australia for seedstock and commercial breeders. These ranged from intensive workshops for seedstock producers to learn how to collect effective performance data on property to practical field days for commercial producers to better understand genetic information available on bulls for selection. The total attendance to these events was around 2,000 people, while learning outcomes at a series of seedstock specific workshops averaged a 114% improvement in perceived understanding level of the key technical issues discussed.

Due to the past achievements, the TBTS project received unanimous endorsement from all stakeholders to proceed for a fourth term which commenced in July 2008. The TBTS project is now funded under the MLA Donor company scheme. Industry funds are matched dollar for dollar by the Federal government and...
managed by MLA. The stakeholders of the TBTS project are MLA, ABRI and nine tropical cattle breed societies representing Brahman, Santa Gertrudis, Droughtmaster, Belmonts, Brangus, Charbray, Braford, Senepol and Simbrah.

Coinciding with the new phase of the TBTS project was the appointment of Philip Mann as the TBTS Technical Officer. Philip replaced Craig Croker who had done an exceptional job for the project over the 20 months he filled the position. Philip brings a wealth of practical experience in breeding tropical cattle. This stems from past employment as manager of an integrated oil palm and beef operation in Papua New Guinea where a 1700 head breeding herd was vertically integrated with a 1300 head feedlot, an abattoir and retail outlets. He also grew up and worked on his family’s beef breeding and fattening operation in coastal Central Queensland. To complement his practical background Philip also carries outstanding academic qualifications, holding a degree in Bachelor of Applied Science (Rural Technology) with honours from the University of Queensland, Gatton. At the completion of his degree he was awarded the college medal for outstanding academic achievement.

Philip undertook three months of intensive training at Armidale with the BREEDPLAN team before relocating to the Rockhampton office in Brahman House at the start of 2009. In addition to Philip’s full time technical role, Christian Duff will also continue to provide part time extension and technical support to Northern Australia through the TBTS project.

As the TBTS project moves forward into the new term, the core objective ‘to assist the uptake of genetic technologies in Northern Australia’, will remain however, there will be a greater focus on expanding the range of traits being recorded by Tropical Seedstock producers i.e continue recording weight traits while expanding the collection of carcase, fertility and temperament traits. This will promote the identification of superior genetics for a more complete range of economically important traits. Identifying these genetics enables a balanced approach to selection and continued genetic improvement for beef cattle in Northern Australia.

Further details on the SBTS or TBTS project, including upcoming events, can be accessed on either projects web site (http://sbts.une.edu.au or http://tbts.une.edu.au) or by contacting the relevant technical officer.

New Tip Sheets Available

An expanded range of BREEDPLAN tip sheets is now available. The tip sheets cover a range of topics related to the interpretation of BREEDPLAN EBVs and the recording of performance information. Recent tip sheets that have been developed include:

- Displaying BREEDPLAN Information in Sale Catalogues
- Common Performance Recording Problems
- Selecting Animals with Selection Indexes
- Recording Muscle Scores
- Calculating EBVs for Introduced Animals
- Reportability of EBVs

To access the tip sheets, simply go to Technical area within the BREEDPLAN website (http://breedplan.une.edu.au) and click on the link to the Tip Sheets page. Paper copies of the tip sheets can also be provided by contacting staff at BREEDPLAN.
A growing number of seedstock producers are realising the benefits of educating their bull buying clients on BREEDPLAN and related genetic technologies. In recent years the process of undertaking on-property client education has been simplified with the availability of a workshop package titled “Closer to Your Clients”. This is currently available to BREEDPLAN members from breed societies involved in the Southern Beef Technology Services (SBTS) or Tropical Beef Technology Services (TBTS) projects.

The “Closer to Your Clients” workshop is hosted on-property by individual seedstock producers or groups of like-minded breeders (e.g. state or zone branches) and facilitated by experienced extension staff from SBTS or TBTS. The program includes a mix of thought provoking discussions, informative presentations and, most importantly, practical yard demonstrations with bulls and their accompanying genetic information.

Since this client education package was released in January 2007, nineteen “Closer to Your Clients” workshops have been conducted with a combined audience of 651 producers and averaging 34 clients per workshop. Importantly, the client days have also covered a wide geographic spread including Central Queensland, Southern Queensland, NSW North West Slopes, NSW Hunter Valley, NSW Riverina, Victorian Western Districts, Victorian Gippsland and South-West Western Australia.

Several seedstock enterprises have also chosen to host multiple “Closer to Your Clients” workshops in both 2007 and 2008 with some indicating they will go again in 2009. This is possible as the workshop program can be revised to fit in with needs of each individual seedstock enterprise.

Two client days conducted in 2008 that contrasted in more ways than locality were those of Nullamanna & Yarram Shorthorns (located at Moama on the Border of NSW and Victoria) and Gyranda Santa Gertrudis (located at Theodore in Central Queensland).

The principals of Nullamanna & Yarram Shorthorns, Peter, Natalie, Knox & Shirley Durrant have been breeding stud Shorthorns since 1972 and in 2008 decided to undertake on-property client education using the “Closer to Your Clients” workshop package offered through the SBTS project.

“Along with inviting our bull buying clients to the workshop, we also invited other service providers involved in our beef producing business such as stock agents, our cattle vet and feedloters. A number of school students interested in beef production also attended. We took the opportunity to primarily provide education to our clients, but to also showcase the importance of the genetics we are producing to the whole supply chain” Peter Durrant said

“A stock agent that attended the day was previously skeptical of the value of BREEDPLAN figures. However, after the workshop he could see how he could utilise BREEDPLAN EBVs to help fine tune his selection of bulls for his clients by being able to pick bulls that were strong in the traits that his clients required but are difficult to visually assess such as milk and marbling,” added Peter.

A highlight at the Durrant’s “Closer to Your Clients” workshop was a session presented by Peter Durrant himself. He outlined the process that he undertook to find a recently purchased Shorthorn sire using the technology available. This included an overview of the breeding objectives of their herd, identifying the traits of importance, cross referencing those to the available EBVs and Selection Indexes, searching the Shorthorn online database for bulls that met their EBV and Index criteria, checking the fertility history of the related females online and concluding with the visual inspection of the bulls and their related females.

“Education will now play a very important part in the service portfolio we offer to our bull buying clients” concluded Peter.

The principals of Gyranda Santa Gertrudis, Burnett & Louise Joyce, have appreciated the need for bull buyer client education for many years. They annually conduct an open day in mid-August, about a month prior their annual on-property sale, to present their sale bulls and offer client education.

“Prior to 2008, the open day program always included a session or two on BREEDPLAN.
Bill Hoffman has recently been elected as the new Chairman of the BREEDPLAN Technical Liaison Group (BTLG). The BTLG group comprises extension staff, AGBU scientists and ABRI representatives and meets 4 times per year to discuss the new developments within BREEDPLAN and associated genetic technologies.

Bill is currently employed by NSW Department of Primary Industries in the role of Technical Specialist (Beef Breeding) and Livestock Officer (Beef Products) in Casino. Bill has had 25 years as a frontline beef cattle extension officer with NSW DPI and worked across a wide range of areas including beef breeding, marketing, nutrition, meat quality and farm management.

In the area of beef breeding, Bill has a long history dating back to the ground breaking crossbreeding research that was conducted by NSW DPI at the Grafton Research Station starting in the 1970’s. Bill was directly involved in some of the associated Grafton research projects and in the successful extension of the results. Since that time, Bill has been involved in a number of significant beef breeding projects including:

- National Beef Genetic Extension Plan
- National Beef Genetics Expo and Workshops
- Development of “Effective Beef Breeding” for Edge Network
- Development of NSW DPI “Beefing up your Business”

Other seedstock enterprises that have hosted a “Closer to Your Clients” workshops in 2007 and/or 2008 include Wirruna Poll Herefords (Holbrook, NSW), Mawarra Herefords (Sale, VIC), Lindsay Murray Greys (Casterton, VIC), Bowen Poll Herefords (Barraba, NSW), Elite Poll Herefords (Scone, NSW), Woolcott Shorthorns (Meandarra, QLD), Melaleuca Murray Greys (Albany, WA), Yavenvale Herefords (Adelong, NSW), Mount William Charolais (Ararat, VIC), Monterey Murray Greys (Kimdale, WA), Wightfields Santa Gertrudis (Wandoan, QLD), Yalgoo Poll Herefords (Walcha, NSW), Womboramuna Simmentals (Nundie, NSW) and Wallawong Murray Greys (Gunnedah, NSW).

Further details on hosting a “Closer to Your Clients’ workshop can be accessed from the SBTS or TBTS websites: (http://sbts.une.edu.au or http://tbts.une.edu.au) or by contacting:

SBTS: office@sbts.une.edu.au
Phone: (02) 6773 3555

TBTS: office@tbts.une.edu.au
Phone: (07) 4927 6066
BREEDPLAN welcomed 5 new staff members to the pedigree and performance team in early 2009. The 5 new staff, Keryn Hutton, Ashlee Austin, Jenna Taylor, Liz O'Grady and Charlotte Faulks have joined the team as BREEDPLAN consultants and will each be responsible for processing performance information and providing associated support to BREEDPLAN members in Australia and New Zealand.

Meet our New BREEDPLAN Staff

**KERYN HUTTON** joined ABRI in January 2009 and is responsible for processing the BREEDPLAN performance data for Poll Hereford, Charolais, Mandalong Specials and Maine Anjou. She is also Executive Officer for Red Poll.

Prior to joining ABRI, Keryn worked in agricultural research, most recently in the field of artificial reproduction, as a Research Officer with the CSIRO. In addition she has owned and managed a sheep and cattle property in the New England region.

**ASHLEE AUSTIN** joined ABRI in January 2009 and is responsible for processing the BREEDPLAN performance data for Hereford, Limousin, Devon and Braford. She is also Executive Officer for Lincoln Red.

Ashlee has completed a Bachelor of Agriculture, majoring in Animal Production, at the University of New England. She is from the Central Coast of NSW and has been involved with the showing of stud cattle and steers for the past six years. During this time Ashlee has also gained experience in feedlots throughout Southern Queensland and many commercial and stud herds in NSW.

**JENNA TAYLOR** joined ABRI in January 2009 and is responsible for processing the BREEDPLAN performance data for Angus (NSW & QLD members), Brahman, Lowline and Senepol.

Jenna is a graduate from the University of Otago in Dunedin, New Zealand with a BSc (Hons) in Genetics. She has also developed strong people and communication skills through employment in areas of customer service and service quality in New Zealand and the USA.

**LIZ O’GRADY** joined ABRI in March 2009 and is responsible for processing the BREEDPLAN performance data for Angus (VIC, SA, WA & TAS members), Brangus, Gelbvieh and Charbray.

Liz graduated in 2006 from La Trobe University with a Bachelor of Animal Science and has worked as an AI technician for Riverina Genetics, Deniliquin. She spent 12 months working in the United Kingdom where she gained experience in training and showing beef cattle with the Rosemead Aberdeen-Angus Stud, one of the oldest and largest Angus studs in the UK.

**CHARLOTTE FAULKS** joined ABRI in April 2009 and is responsible for processing the BREEDPLAN performance data for Murray Grey, Shorthorn, Droughtmaster, South Devon, Salers, Blonde d’Aquitaine, Speckle Park and Romagnola.

Charlotte has a Bachelor of Agriculture from Lincoln University in New Zealand and prior to joining ABRI, she worked for Meat & Wool New Zealand as a Product Coordinator in Farm Services. Charlotte has also gained considerable practical experience on some of New Zealand and Australia’s most prominent beef cattle studs over the last 5 years.
MATERNAL PRODUCTIVITY PROJECT

Developing new early-life selection criteria for maternal productivity traits

A project within the Cooperative Research Centre for Beef Genetic Technologies (Beef CRC) is addressing concerns in the beef industry about the potential negative impacts on breeding herd productivity accompanying genetic selection for improved feed conversion efficiency and carcase traits. The project is designed to obtain sufficient data to determine genetic relationships between cow body composition and production efficiency, and for the development of new early-life selection criteria for maternal productivity traits.

It is unlikely that breeders will fully utilise new opportunities for genetic improvement in feed conversion efficiency and carcase traits without better knowledge about the potential impacts on maternal productivity. In addition, market premiums for increased muscularity and leanness in slaughter animals will influence the breeding programs of individual beef producers and eventually impact on the body composition and efficiency of breeding cows.

Previous research has shown that mature cows having a tendency to store and retrieve energy as lean tissue generally have higher maintenance feed costs than cows which tend to manipulate fat tissue. Hence, we would expect that changes to body composition patterns of slaughter animals and breeding cows will impact on total herd feed requirements and production efficiency.

The impact of changing cow body composition will become more important as future commercial cow-calf operations are forced into more marginal and variable environments. In contrast, it is anticipated that there will be a trend for greater intensification of growing /finishing systems (e.g. lot feeding, high-performance pasture systems) in order to meet future market requirements for improved end-product yield and quality. Under this scenario the beef industry requires resilient maternal genotypes and production systems that can efficiently utilise variable feed resources (e.g. via efficient energy storage and mobilisation of body tissue reserves) whilst also having the potential to produce progeny that meet high quality market targets.

The objective of the project is to provide the necessary information and tools for breeders to effectively balance these potentially conflicting requirements.

Repeated measurements of body composition and reproductive performance are being made on approximately 7,000 Angus, Hereford and Poll Hereford heifers in co-operator industry herds. The participating breeders have already recorded yearling ultrasound body composition measurements (EMA, P8 and rib fat, and IMF %) on their heifer replacements. In this project additional liveweight and ultrasound body composition measurements are being recorded on replacement heifers at two points during the annual production cycle (pre-calving and weaning) during the first 2 parities.

Various measures of lifetime maternal performance (e.g. reproductive performance, progeny value, structural soundness, longevity) will be subsequently recorded on these heifers whilst they remain in the breeding herd. These measures will be correlated with early-life measures of body composition and performance in order to identify new potential selection criteria for future heifer replacements. This will enable the development of more accurate multi-trait selection indexes for the genetic improvement of overall profitability.

In the first 3 years of the project (2006 - 2008) body composition data has been collected on over 5,200 two-year old and three-year old heifers representing a wide range of Estimated Breeding Values for the key traits recorded on GROUP BREEDPLAN (see Table 1).

For further information contact Dr Kath Donoghue at NSW DPI on (02) 6880 8020 or via email on kath.donoghue@dpi.nsw.gov.au

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<th>Table 1. Average and range of Estimated Breeding Values* for recorded heifers</th>
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<td>200 Day</td>
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<tr>
<td>Wt. (kg)</td>
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<td>Angus (4,030 heifers)</td>
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<td>Average</td>
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<td>Hereford/Poll [2,199 heifers]</td>
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*GROUP BREEDPLAN EBVs published in January, 2009
South Africa and Namibia seem to be bucking the International trend and have seen a marked increase in the number of seedstock producers and cows registered since 2002. The increase in numbers of seedstock producers and registered producers has been most spectacular in Namibia. Namibia now has 209 beef producers registering 15,873 new births per annum (i.e. females older than two years). Over 40% of all beef producers in South Africa and 86% of all beef producers in Namibia now use the BREEDPLAN registry and recording system.

Mr Anthony Coates, Chairman of the ABRI Board, was the Southern African BREEDPLAN guest of honour in November 2007. Anthony visited numerous producers in South Africa and Namibia, was also the guest of honour at the Livestock Registering Federation (LRF) meeting in Bloemfontein and at the prize giving function in the evening. In 2008 Dr Roger Hunsley was our guest of honour. This year Dr Arthur Rickards will be visiting Southern Africa. South Africa will also be holding its first ever Stockman’s school using a similar format to that of the Feeder Steer Schools held in Armidale.

At the prize giving function, winner of the prestigious Landbouweekblad/BREEDPLAN breeder of the year was Namibian producer Mecki Schneider of Okabra Brahman. The Schneiders run a stud of over 600 females under very tough environmental conditions. Despite this they manage to maintain a calving percentage of over 80% in their herd. Their breeding goals they follow are very well defined and Mecki is a leader in the industry where he serves on various Agricultural boards.

A significant development for BREEDPLAN in Southern Africa has been the formation of the Livestock Registering Federation (LRF), a body similar to the Australian Registered Cattle Breeders Association (ARCBA). The objective of the LRF is to promote members acting as independent Registering Authorities. Most of the societies that belong to the LRF use the BREEDPLAN recording system. Members of the LRF represent nearly 50% of all beef and over 30% of all Dairy Seedstock Breeders in Southern Africa. Members of the LRF recently had an exhibition at the World Meat Congress held in Cape Town. This body is now actively involved in various industry initiatives. More information on the LRF and Southern African Societies can be found at the www.breedplan.co.za website.

As with our rugby and cricket teams, Southern African genetics continues to do well internationally. Producers put a lot of emphasis on selection for fertility whilst maintaining a “middle of the road” policy regarding mature cow weight. Due to low labour costs it is also relatively easy to measure birth weight and other traits. The adaptation of our breeds in tough environments has enabled Southern African producers to actively market their genetics internationally. Herd recording is taken very seriously in most herds.

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BREEDPLAN in UNITED KINGDOM

Since the first adoption of BREEDPLAN technology in 2002, the use of BREEDPLAN in the United Kingdom continues to go from strength to strength. BREEDPLAN analyses are now conducted for 7 different Breed Societies being the Aberdeen-Angus Cattle Society, Beef Shorthorn Cattle Society, British Blue Society, British Charolais Cattle Society, Hereford Cattle Society and South Devon Herd Book Society. The BREEDPLAN analyses for all 7 Breed Societies calculate a full range of EBVs and selection index values.

Demonstrating the success of BREEDPLAN in the UK, a recent analysis was conducted on the results of the British Charolais Bull Sales in Perth, Scotland.

BRITISH CHAROLAIS BULL SALE - PRICE/EBV ANALYSIS

David Benson, Chief Executive of the British Charolais Cattle Society (pictured), was pleased with the sale results at the Perth Bull sales held in February, 2009. “It was a UK bull sale record despite all the economic gloom around at the moment.” The 195 lots averaged over £6,000. While there are many factors influencing bull buying decisions, David felt that the BREEDPLAN EBVs were an influence and that buyers were taking note of the Society’s Terminal Sire and Self Replacing indices.

David’s impression of the sale seems justified. A quick look at the top 20 prices paid (which covered 28 bulls), showed that 20 were in the top 20% percentile for the Terminal Sire index and 21 for the Self Replacing index.

Of the 195 lots sold, 5 bulls had no EBVs at all. Some bulls had a few EBVs that were not reportable, so these were put into a separate category (Miss EBV) when considering that particular trait. The bulls with EBVs were categorised into the top 30% percentile for the trait (Top third), the Middle 40% (ie from top 31% to top 70%) and then the rest (Bottom third) based on their EBVs. As the top priced bull was sold for 9.5 times the average, and almost twice the price of the second top bull, it was excluded from the price/EBV analysis as an outlier- even though it was in the top 10% for the Self Replacing index. The bottom priced bull was also excluded.

Figures 1 and 2 show the average price per category for the two Society indices. There is an average price difference of £1,787 between the top third and the bottom third for the Self Replacing index and £1,715 for the Terminal Index. Also, the bulls without EBVs had a slightly lower average price than the bottom third.

The price differentials carried over to the component traits as well. Calving Ease (Figure 3: Page 28) had a price differential of £1,152 and 400 day weight (Figure 4: Page 28) was £1,833. Poor EMA (Figure 5: Page 28) was heavily penalised compared to moderate and higher EMA. The top to bottom price differential for EMA was £1,603, but average was only slightly lower than top. There was a slight trend to more Fat in the prices paid (Figure 6: Page 28) where percentiles in British Charolais have leaner animals at the top percentiles.

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“The story seems quite consistent – you need EBVs and good EBVs if you want to get the better prices at sale. Many bull buyers seem to be taking notice of the Society indices and, in particular, looking for calving ease, growth and muscling,” commented David.

This is reflected in the number of HerdMASTER (Saltbush Software’s herd recording PC programme) sales that have remained particularly strong. The database of HerdMASTER users in Southern Africa is as large as that in Australia.

Also significant has been the adoption of BreedObject Indexes. Because over 70% of all weaners go through a Feedlot Phase, a Self Replacing Feedlot Index has been developed. Most of Southern Africa has a very distinct wet and dry season (much like Northern Australia) and producers typically offload weaners to the feedlots during the dry winter months.

Finally, all South African Societies including the Namibian Stud Breeders Association have renewed their BREEDPLAN contracts. This is a very strong endorsement of the BREEDPLAN system. A big thank you to all the staff at ABRI and Saltbush Software for their help over the last five years.
BREEDPLAN IN NEW ZEALAND

Performance Beef Breeders New Zealand, now administering for 11 Beef Breeds at their newly constructed headquarters on Manfeild Park, Feilding are fine tuning other initiatives to build on the hugely successful “one stop shop” service provision model for beef seed stock in New Zealand.

NZ Beef Technologies (NZBT) now has representatives appointed for each of the breeds and under the Chairmanship of Craig Martin this group is actively looking at beef extension opportunities going forward.

Craig Martin said “that the activities of NZBT during 2008 were a combination of disappointment and high anticipation. The cancellation of the planned workshops in July was disappointing due to a range of circumstances most of which were out of our control. The cancellation taught us a lot about workshop content and more importantly what needs to happen to make NZBT successful in the future. The decision was made to reschedule and change the workshop content to reflect the project initiatives of both NZBT and PPBNZ and roll out potential software alterations and enhancements to BREEDPLAN.

Three successful workshops were held in November in Christchurch, Hamilton and Feilding. In conjunction with these workshops was a Forum involving all shareholding breeds that was held at the new PBB headquarters in Feilding. In attendance was Dr Arthur Rickards (Managing Director ABRI), Murray Scholz (Associate Director ABRI) and Christian Duff (Project Co-ordinator SBTS/TBTS). The content was the introduction of the new generation BREEDPLAN technologies and general discussion regarding Breed contract renewals scheduled for July 2010.

The appointment of Mark Stevens to the PBB team has provided a huge boost to the aspirations of NZBT. Mark will head the project management of the technical projects and greatly enhance positive value adding outcomes that will add value not only to shareholders but individual breeders. Currently our projects are based around the needs of the consumer and working back to the producer. The emphasis is on gathering relevant information that drives production and profit. The Meat Quality project will rely on the establishment of appropriate databases to manage information gathered through traditional means and through new genomics /DNA. NZBT will become proactively involved in both validation and commercialisation of new DNA technologies. Over the next year some “Closer to your Clients” days will be introduced and rolled out with some assistance from ABRI/SBTS and Meat and Wool New Zealand.

DNA service provision is the latest new service that has been added to the vast range of services now on offer at PBB. All DNA samples are sent direct to PBB and loaded to the PBB DNA database, forwarded to the contracted laboratory with profiles and parentage verification being quickly turned around for our members. These results are then loaded to BREEDPLAN virtually before the member has seen them.

General Manager of the PBB group Murray Meads said “that the new DNA service adds yet another smart new dimension to the company’s service menu and is highly consistent with a core desire to facilitate the enhancement of beef genetics and breed performance in New Zealand.”
BREEDPLAN in NORTH AMERICA

Significant BREEDPLAN activity continues in North America. In addition to the ongoing provision of genetic evaluation services to several breed societies, two significant recent activities have been the development of the Pan American Hereford BREEDPLAN analysis and the adoption of ABRI products by five of USA’s tropical Breed Associations.

Pan American Evaluation of the Hereford Breed

Multi-country BREEDPLAN analysis takes a giant leap forward with the launch of the first Pan American Hereford evaluation scheduled for June 2009. Development of the Pan American evaluation, which includes the USA, Canada, Uruguay and Argentina, has steadily progressed over the last 5 years, with all parties now engaging in final discussions to move into a production run.

Routine BREEDPLAN analysis of the Hereford breed in North America started in 2002 after two years of planning and development. This analysis included birth, weaning and yearling weights, scrotal size records and ultrasound scan records for eye muscle area, rib fat and intra-muscular fat. In 2004, actual abattoir records (carcase weight, eye muscle area, rib fat, marble score) were added to the evaluation. With all recorded traits now being included, the American and Canadian Hereford Associations agreed to the complete re-estimation of all genetic parameters and adjustment factors required for the evaluation, an undertaking handled by the Animal Genetics and Breeding Unit (AGBU) at UNE. The outcomes of this research were then implemented into the North American Hereford evaluation in 2006. Since 2002, the analysis has been run twice a year in conjunction with a calving ease analysis that uses birth difficulty scores and birth weight records.

The BREEDPLAN analysis of the Hereford breed in South America started with a trial evaluation conducted in 2002, including birth, weaning, yearling and final weights, scrotal size records and ultrasound scan records for eye muscle area and rib fat. This resulted in a single annual evaluation being run, but only for the weight traits. Each year, new data from Argentina is added, but the weight data extract for Uruguay is the same as used in the 2002 test evaluation, as the Uruguayan Association continued to have their genetic evaluation run through the University of Georgia.

However, all four Hereford Associations expressed a keen interest to participate in a 4-country joint evaluation of the Hereford breed and as such, contributed to the research and development required to bring this to fruition. The pedigree and performance database for Uruguay held at ABRI was updated, and complete re-estimation of all genetic parameters and adjustment factors was undertaken by AGBU in 2006 on behalf of both South American Associations. At the same time, the matching of all animals in common between North and South was completed (this being critical for linkage to be made between the two), while AGBU undertook development of the analytical software and ABRI invested in the computing hardware and ancillary programming required for the Pan American evaluation. This is the largest undertaking by BREEDPLAN to date, consisting of around 5.4 million animals (with 4.2M having at least one performance record), 236,000 sires and 1.7
BREEDPLAN in NORTH AMERICA

million dams, within one complete multi-trait analysis of all traits recorded across the 4 country databases: birth, weaning, yearling and final weights, scrotal records, scan traits (EMA, Fat, IMF) and carcase traits (CWT, EMA, Fat, marble score).

The current approach to multi-country analysis in BREEDPLAN allows for country-specific adjustment factors, but assumes the same genetic parameters are appropriate to all countries and also that, for a given trait, the genes controlling expression are the same in all countries (ie. that across-country genetic correlations are 1.0). The Pan American Hereford evaluation, in contrast, allows for country-specific adjustment factors and country-specific trait heritabilities, to reflect more appropriately what we do know about how each trait is expressed in each country. While this current model does not as yet allow the across-country correlations to differ from 1.0, the analytical complexity of the Pan American Hereford evaluation nonetheless puts it at the forefront of developments in large-scale, routine and practical multi-country evaluations.

American Tropical Breeds Join ABRI System

Five of the USA's tropical breed associations recently commenced using ABRI's International Livestock Register System (ILR2) to record their pedigree and performance information. The associations are the American Brahman Breeders Association, Santa Gertrudis Breeders International, Beefmaster Breeders United, the American Red Brangus Association and United Brangus Breeders. The adoption of ABRI systems was made possible because the five breeds have formed an entity known as the American Breeds Coalition (ABC) which actively explores ways of combining resources for the common good of the participants and to eliminate duplication. In addition to the ILR2 project, the ABC's efforts have included running joint promotional booths at trade shows and conducting educational seminars and events related to the commercial sector.

The five breeds use a common breed registry template with breed-specific customisation. As a result they have achieved impressive economies of scale in development. Processing is conducted on a single server located in the American Hereford Association (AHA) office in Kansas City. This also achieves economies in annual operating costs. The operational service is provided by the American Beef Records Association which is a wholly-owned subsidiary of AHA.

The Brahman, Santa Gertrudis, Beefmaster and Red Brangus breeds have already shifted their genetic evaluation to BREEDPLAN. This work was previously distributed across Colorado State University and University of Georgia in the USA. The Executive Director of Santa Gertrudis Breeders International, Mr Ervin Kaatz (pictured) is delighted with the change to BREEDPLAN. In an email to Arthur Rickards he wrote, 'I can't begin to express how pleased I am with Brad Crook and Peter Paine and their work on our Genetic Evaluation. Their information and explanations to me and their co-ordination with ABRA have been excellent. I have never had this level of co-operation in my 25 years of work in two breed associations. They are a credit to your organization and I thank you for letting them do my work.'

ABRI anticipates that the wider use of BREEDPLAN will encourage greater exchanges of genetic material between the USA and Australia. International genetic evaluations are a possibility further down the track. The bigger the gene pool under evaluation the greater the chance in finding elite genetics which will accelerate genetic progress in both countries. Virtually all of the British and European breeds in Australia are involved in some form of international genetic evaluation using BREEDPLAN and it will be exciting to offer our tropical breeds the same opportunity.

Arthur Rickards praised the American Breeds Coalition and the American Hereford Association for their commitment to rationalising resources to achieve efficiency in breed administration. This puts both organisations in the forefront of the restructuring that the cattle seedstock industry must go through internationally to stay viable, progressive and relevant.
BREEDPLAN uptake in South America has been progressing well over the past few years, despite major economic, political and environmental challenges. Significant BREEDPLAN activity has occurred in Argentina and Chile, while interest has been received from Brazil.

ARGENTINA

The last couple of years haven’t been easy for the Argentinean Beef producers. Following the intervention into the domestic and export commercialisation of beef by the government (peaking in the autumn of 2006 with a complete ban on export of beef products), the Spring/Summer of 2008-2009 was the driest of the last 50 years. Both of these factors had a direct impact on the productivity of the Argentinean livestock industries.

Despite these tough times, ABRI maintained its strong commitment to providing the BREEDPLAN technology to their clients in Argentina. As it has done for more than a decade, ABRI continued working with Argentinean producers in order to provide them with the best genetic evaluation program currently available in the world. Specific activities in Argentina have included:

The Hereford Breed Society of Argentina (AACH) has been working with Brad Crook on ways to improve the efficiency of the data flow between AACH and ABRI. This included a visit from Sol Magoret (SOLUGEN) to Armidale early in 2009. Brad is also working on adding live animal ultrasound and scrotal circumference information into the BREEDPLAN analysis for the AACH.

The “Grupo Angus Argentino” has incorporated some enhancements into their analysis such as genetic groups, and some extra capabilities in their Internet Solutions services including On-line Sale Catalogues and On-line Registrations of animals and performance. The group continues to incorporate new breeders that share the same principles and needs and the latest results of their sales showed that the commercial buyers are interested in buying animals of this type, particularly with the high quality information to back them up.

In January 2008, ABRI released the results of the first Argentinean Bonsmara across-herd genetic analysis, including weight, carcase and fertility traits. Currently other breeders in Argentina from other breeds such as Braford & Brangus are working with the ABRI to have their data analysed in the near future.

Several activities have been conducted in Argentina in the last few years with Matias Suarez (ABRI) leading a workshop in Argentina during April 2007. This workshop included topics such as “Understanding how BREEDPLAN works”, “The Importance of Recording Quality Performance Information” and “What Traits to Measure and When”. Matias travelled to Argentina again in 2008 for a number of meetings where he met with the CREA Cabañas Group and presented an overview of the latest BREEDPLAN technologies. In July 2009, there are plans for Matias to return to Argentina in order to continue to keep BREEDPLAN clients in Argentina up to date with the latest developments of this technology.

CHILE

Since October 2007, ABRI has engaged in a commercial agreement with COOPRINSEM Chile to provide COOPRINSEM’s clients with the opportunity to conduct a BREEDPLAN genetic evaluation. COOPRINSEM is a cooperative organization with 500 employees, 13 centers and 218 partners from Los Angeles to Chiloé and has been providing services to the Chilean livestock industries since 1968.

In January 2009 the first BREEDPLAN analysis was run for a COOPRINSEM client, Criadero San Antonio, including weights and fertility traits.

For further information about BREEDPLAN in South America, please contact Matias Suarez at ABRI on +61 2 6773 3052 or in Argentina on (011) 5256 7696.