The Canadian Angus Association (CAA) has renewed its contract with the ABRI following a dream run in the first five years.

Chief Executive Officer of CAA, Doug Fee, visited Australia in February for an update on ABRI’s latest technology and to sign off the new agreement. "Up to the mid 1990s our business opportunities were being stifled by the limitations of the system offered to us by our previous service provider. The diverse functionality and high capacity of ABRI’s software, first installed in 1996, has allowed us to exploit fully the popularity of the Angus breed. Our registrations have more than doubled from around 20,000 in 1995 to over 45,000 in the year just passed - and with this we have moved from 4th spot in the Canadian industry to the industry-leading position."

"We are now being approached by other breed associations to handle their pedigree and performance recording. Both the American and Canadian Murray Grey Associations now use our facilities. This ensures that their data is in the correct format for BREEDPLAN’s international genetic evaluations for the Murray Grey breed.

Canadian Angus has been delighted with its recent introduction of ABRI’s internet services. A copy of its database has now been put on ABRI’s WEB server where 30,000 data enquiries were recorded in the first month. Internet-based registrations have also been introduced.

Doug made time to visit the White family’s “Bald Blair” Angus stud (below) and was impressed by the way scanning, gene markers, Herd Magic, feed efficiency measures and internet-based sale catalogues are being integrated to accelerate genetic improvement and to market the resultant product to a wide audience of buyers.

The last six months has also seen ABRI implement a comprehensive breed register for a group of progressive Angus breeders in Argentina led by the Bustingorri family.

The database lives at ABRI’s computer centre in Armidale. All data is transmitted from Argentina over the internet. Registration certificates and BREEDPLAN reports are returned to Argentina by Internet. This example demonstrates that we are now living in a virtual information age. Essentially, ABRI can now provide fast turnaround BREEDPLAN services to any country in the world.

Arthur Rickards
In my editorial this time last year I reported the rumour that a gene marker for marbling was about to be commercialised in Australia. This has come to pass, as GeneStar®. Now we are told of another meat quality marker to be commercialised shortly - this time for tenderness. We should note that these markers do not account for all the variation in these carcass traits - there are other genes involved - more markers will follow. Articles in this issue discuss possible uses of these markers and options to include them in BREEDPLAN. All geneticists I have heard speak on the topic, agree that markers will be best used in conjunction with conventional performance recording, such as BREEDPLAN.

Another way of improving tenderness is to improve temperament. Some discussion on this option is presented, including the measurement of Flight Speed, and its genetic link to tenderness.

When improving the carcase traits, we must ensure functional cow herds are maintained. Articles on feed efficiency, mature cow weight and condition score and on new CRC trials in Northern Aust report on initiatives in these areas.

Perhaps the biggest innovation this year has been the rapid expansion of internet use to catalogue sale stock and search Breed Society databases. In several breeds now you can obtain lists of bulls to suit various markets/production systems - ranked in order of their Breed Object $ index.

With all these improvements, it is not surprising to see BREEDPLAN enrolments continuing to rise, particularly in Qld and many of our overseas clients. Welcome to all new readers - your feedback is always welcome.

BREEDPLAN Databases - On the Web

Do you wish to:  
- Check the latest EBV's of your favourite AI sire.  
- Find phone/fax details for other BREEDPLAN herds in your district.  
- Research the pedigree of any registered animal.  
- Screen the latest Sire Summary for an AI sire suitable for use in your herd.  
- Rank your current drop of bull calves by various BreedObject $indexes or EBV's.  
- Search up-coming Auction Sales for a suitable new bull purchase.  
- Use a 'Mating Predictor' program to investigate possible progeny EBV's for various combinations of sire and dam.

Well there’s no need to phone your Breed Association or your BREEDPLAN processor.....The answers to these questions (and many more) are only a few mouse-clicks away... via the Internet.

As a part of its BREEDPLAN service, ABRI has made available to Breed Associations, an extensive range of web-based services, easily accessible to anyone world-wide who has access to the internet. These systems have access to the Association’s pedigree and performance database, which has been built up over many years of performance recording and accurate record-keeping. This is an invaluable tool to the serious cattle producer.

Check out the services available from the following web sites. You’ll be surprised how easy it is to use.

Lowline: http://lowline.une.edu.au/  
(Charolais may not offer all available services)

Rapid Adoption  
Breed Associations and their membership have embraced the new technology wholeheartedly. Overall transaction statistics have risen from about 10,000 per month in July 2000 (one breed using the system) to over 115,000 in February 2001 (12 breeds). As the range of services on offer is expanded, and more users are exposed to the system and appreciate its usefulness, these figures will continue to rise. The sale-cataloguing component of the system can boast some impressive statistics.

For example:  
■ Brahman: Week Sale Rockhampton 4,5,6 October 2000 (885 lots) received 5,481 hits from 200+ different users in the weeks leading up to the sale.  
■ Hereford and Poll Hereford breeders listed 1,277 lots from 14 sales during Spring 2000 selling season:  
■ Tartrus-Lancefield Annual Bull Sale, October 2000 (196 lots) received 1,715 hits from 118 different users during September and October  
■ Hazeldene Angus Spring Bull Sale (42 lots) received 933 hits from 167 different users  
■ Angus breeders listed 1,729 lots from 28 different sales during Spring 2000.  

Turn to Page 15 for more details on using the system, and how to take full advantage of the features now available.

Murray Scholz
Thai national breeding program

BREEDPLAN in Thailand continues to be utilised by the Thai national breeding programs for cattle and buffalo with funding support from the Australian Centre for International Agricultural Research (ACIAR). The cattle evaluations are being extended to include private farms - both at the small village level as well as to the larger farms.

There are now more than 20,000 Brahman and Brahman cross animals with performance records on the database. The Animal Genetics and Breeding Unit (AGBU), under ACIAR funding, is testing the Thai data from a female fertility perspective - extremely important under Asian agricultural conditions.

An ambitious but attainable breeding program has been established by the Thai Department of Livestock Development (DLD) for the genetic improvement of the Thai native cattle. This native animal is highly adapted to the Thai environment, having good fertility and disease resistance and moderate growth utilising Thailand’s native grasses. These animals are well suited to animal production in small villages but have, until now, been excluded from national breeding programs. Under the supervision of Dr Sawat Thummabood, the DLD has established a 1,000 cow nucleus herd for breed improvement. The progeny will be used in co-ordinated breeding programs in the village herds where the performance of their progeny will be monitored under actual village management. The breeding scheme was developed by the DLD in consultation with Dr Hans Graser at AGBU.

The buffalo database has more than 8,000 performance recorded animals and is assuming increasing importance as buffalo numbers decline at an alarming rate in Thailand. Numbers have decreased from 4.8M in 1993 to 1.8M in 1999, despite buffaloes having advantages over cattle in some production environments. Farm mechanisation (using two wheel tractors rather than buffalo for rice paddy work) and changing social attitudes (most children sent to school rather than tending animals in the field) seem to be the main cause of the decline. The remaining estimated 800,000 female buffaloes will need to become more productive if the Thai buffalo population is to at least stabilise, let alone increase.

The technology and information made available to Thailand under the ACIAR funded project will be showcased at a regional workshop to be held in Thailand in July. As well as outlining the breeding technology available, the workshop will aim to establish an inter-country working group on animal breeding in the region. The aim of the working group will be to foster information and technology exchange on animal breeding in a cooperative regional environment. With a regional focus on breeding, the working group will be able to coordinate R&D resources while applying the information and technology to their unique environments and production systems.

Jack Allen

Buffalo judging, Chon Buri, Thailand.

features...

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Gene flow in the Australian industry ................................................................. Page 16
Herd recording software ......................................................................................... Page 18
Producers using EBVs for weaner sales

In last year’s Newsletter, I outlined initiatives to provide Sire EBVs on weaner cattle at some store sales last Autumn. This was a joint Meat New Zealand/Beef Council activity. Cards with the EBV information were placed on sale pens. (see below).

There were four sales in the trial and about 35% of the 6,000 cattle were involved. The results were quite encouraging. Comments included “it’s a damn good idea”, “it’s the best thing that’s happened at the Feilding saleyards for a very long time”, “I won’t be buying bulls without EBVs in the future” and “do you think weaners without EBVs will be discounted?”. We are trying two more regions this year.

I thought you may like to read about two herds supporting these sales.

“Tunnel Hill”

“This magnificent pen of whitehead calves, account Richard and Suze Redmayne of ‘Tunnel Hill’, Turakina, were sired by Hereford bulls in the top 6% for 400 and 600 day growth in Australasia”.

This was the auctioneer’s opening patter, at the first of Feilding’s EBV weaner calf fairs for the year 2000. The heifer calves on the day were indeed magnificent, weighing 290 kg and selling for $490. The Redmaynes have been selling calves like these at Feilding for many years, however this sale was a bit different, with the Sire EBVs on display. This is fully in keeping with their policy of ‘completing the information loop’ from conception to slaughter. Individual details are recorded on the cows and their progeny, as part of Tunnel Hill’s policy of satisfying the customer.

One of their breeding objectives is for male calves to have the potential to reach carcase weights over 320kg at 15 - 18 months of age, while grading P1 or P2.

Collection of objective data starts each year with the purchase of selected (some heifers are rejected because of poor milk and growth EBVs) 18-month-old replace-

<table>
<thead>
<tr>
<th>SIRE BREED</th>
<th>ANGUS</th>
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<tr>
<td>SIRE EBV Value</td>
<td>Breed Average EBV</td>
</tr>
<tr>
<td>400 day EBV</td>
<td>+65</td>
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<tr>
<td>600 day EBV</td>
<td>+80</td>
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Dam breed: HEREFORD x ANGUS

Following the sale of the calves, the purchaser is supplied with a sheet containing historical data on each calf purchased - TB tag number, date of birth, weaning weight, age at weaning and weight-gain from birth to weaning. This enables weight gains to be further followed through the animal’s life and matched with slaughter data. At slaughter, if the owner of the cattle is agreeable, this data is then fed back to the Redmaynes and any problems or benefits can be traced back to a cow or group of cows. This then completes the maternal information loop.

Sires are chosen on strict criteria based upon their EBVs (they must rank within the top 10% of sires, in the Hereford Trans-Tasman Genetic Evaluation, for 400 and 600 day weight) conformation, length, muscling and temperament. The Redmaynes have developed such an impressive database of information that they know the performance characteristics of each of their paddocks. This enables them to utilise particular paddocks to achieve defined production targets. An ongoing development programme involving fencing off areas of dry sand for pine planting and creating paddocks of similar soil-type, will further enhance their ability to supply niche markets.

Russell Priest

LOCATION: Turakina, midway between Bulls and Wanganui, in the North Island of N.Z.

COUNTRY: 950 ha of a mix of river silt, clay terrace (81 hectares of each) and the rest wet/ medium-dry sand.

SOILS: Olsen phosphate levels on the sands are 20-25 and on the river silt 30+

CAPACITY: The property carries: 355 cows (97% calving) plus replacements purchased in May.

3800 Romney ewes (lambing percentage 135-140).

100 hectares of pine trees ages 0-27 years (this area will be extended to 325 hectares with a 30 year rotation, harvesting 10 hectares/year).

346 weaner calves sold last year averaged $565.
Argentina
As mentioned on P1 there is now a growing numbers of Argentine herds using BREEDPLAN. Nine of these now do a GROUP analysis (see http://angusargenti-no.une.edu.au). I was pleased to hear from Beno Bustingorri recently that their sales are among the top in Argentina. With another stud, they recently sold 270 bulls for an average of around $3300. "Our priority is moderate birth, high growth, fast finishing with rusticity and good foraging ability. We have been scanning for three years now, with visiting Australian scanners, and look forward to another round shortly," Beno said.

Devon
A recent development in the Devon breed has been the US Assoc.(57 herds) joining the Aust Soc and planning to use BREEDPLAN. There are also discussions about Brazil (320,000 pure females), NZ and the UK joining the analysis in time. Genetic links are currently being reinforced.

Calf weighing
Last issue I reported on the new calf weighing scales marketed in Aust early in 2000. (see http://breedplan.une.edu.au/What's new). I was pleased and surprised to hear that some units of the Hartmann model with load cell scales, are being used in Nth Aust. by NAPCO. This is in the bull breeding herds for their Composite program. I believe they are working really well - though a little extra welding needed initially.

Composites and BREEDPLAN
I’ve been pleased to see some sound moves of late, to get Composite and Xbred data into BREEDPLAN. Several Societies will now take this on appendix registers. If links are good, EBVs will, in time, be able to be computed against that breed’s base. Some of the Northern pastoral Co’s are submitting Composite data for within-herd analyses. The MLA-funded Multibreed database is also due for completion at ABRI this year. This will, amongst other things, assist AGBU research the best way to handle this complex data. A paper on Composite recording is available (http://www.compositebeef.com.au)

Scrotal measuring
Scrotal measurements are now accepted into BREEDPLAN on bulls up to 700 days (previously 600). This will allow some 2 yr old bull presale records to be used. Breeders are advised however, that the best time is from 15 to 18 months, in many production systems. ie: as we are trying to predict the fertility of heifer relatives - often joined as yearlings.

Cloning - When?
Sandy McClintock at a recent seminar: “If you’d asked me 10 years ago when wide spread commercial cloning would be available, I’d have said a 50% chance in 2001. Now I would still say a 50% chance in 10 years”.

Russell Priest
I recently arranged a visit to "Ebony Hills" for a CRC short course group. Everyone came away stimulated by what they had seen, so I thought a summary would be of interest to readers. The "Ebony Hills" enterprise, just north of Armidale, incorporates Angus stud and commercial herds, with links to an alliance with commercial breeders and a branded meat marketing initiative.

Phil and Michelle Wooster have been building up the Ebony Hills stud for 14 years. This was initially fast tracked through the purchase of some cows with very good BREEDPLAN figures, then multiplying these with ET. Astute knowledge of Australian and US figures, before they were so widely understood, gave them a good 'jump start'. "Now that we have the stud component of our herd built up to 115 females, we mainly rely on AI" Phil explained. "Our genetic return on investment is now generally best from buying top semen for every cow, rather than ET on a few cows". Commercial females are also AI’ed to build up our BREEDPLAN information.

The Ebony Hills Quality Beef alliance incorporates:
- MSA and CattleCare accreditation,
- The stud which breeds bulls specifically for the alliance’s market,
- The commercial producers who pro duce the cattle,
- Tullimba feedlot, which finishes all the cattle to a similar specification,
- The Northern Co-operative Meat Company which produces the alliance’s carton product and some body beef,
- Don Allen & Co abattoir which processes body beef for Brisbane and inland butchers,
- Butcher shops that require a QA and branded product and
- A carton wholesaler to provide branded individual Primals to the butcher shops.

Steers from the alliance, for the domestic market, are managed for heavy weaning weights, the closer to 300kg the better, then go straight to “Tullimba” feedlot. They are custom fed for 55 days, to an average carcase spec of 200kg and 10 mm P8 fat. “Bulls with high EMA and Yield% EBVs are used. For the Domestic market, marbling is not critical, though we stay on the positive side." explained Phil. "We initially felt that neutral fat depth EBVs were best, to keep a balance between yield% and cows which carry enough condition for rebreeding. Feedback from our butchers keeps pressuring us to go a little leaner however, so we are now cautiously moving this way. We try to ensure cow fertility by grazing management and strong selection on fertility EBVs. This concentration on fertility traits at the same time as selecting for higher yielding cattle has meant that so far we have not had too many cows dropping out empty”.

Other points include:
- Growthy, high yielding steers with positive marbling are also demanded by feedlots feeding for the Japanese long fed market so this preserves diversification.
- "Cell’ grazing is used on "Ebony Hills", with some very positive effects on pasture composition. Stocking rates around 90 dse are used.
- The stud aims at the following 'EBV profile': 400d wt, top 10%; B wt, breed av; with moderate cow size and pressure on the carcase and fertility EBVs as described above. Use of BreedObject selection indices is assisting this.
- Bulls for sale as yearlings are feed efficiency tested at “Tullimba”. "In time, we hope that EBVs will be possible for this most important trait - when paying custom feeding bills, we are acutely aware of this” concludes Phil.

Brian Sundstrom
"Clonlara" Droughtmasters

Clonlara Droughtmaster Stud is based at "Dilga", a 7500ha property at Glenmorgan, in Southern Queensland, midway between Goondiwindi and Roma.

This is a family operation run by Ed and Carol McCormack together with son and daughter-in-law Gus and Jen. They run 800 cows and 800 followers on a mixture of Bauhinia, Belah, Brigalow and Poplar box country. This is interspersed with ironstone ridges and creeks which can make calving data difficult to collect in a wet summer.

An on-property bull sale is conducted each spring in conjunction with Glen Fosslyn Stud (another BREEDPLAN herd) offering 80 -100 2 y.o. bulls.

All cows on Dilga are recorded on Herd Magic with cow calf ID, birth data, weaning and yearling weights, mature cow weight, scrotal and carcase scan data in bulls. However, only the four single sire Droughtmaster herds are recorded on BREEDPLAN. A further 150 Droughtmaster cows are joined to Droughtmaster sires for bull breeding in two multiple sire groups. The balance of the herd is crossbred and composite with full data collection and selection done in conjunction with Herd Magic data. These cattle are all multiple sire joined. The fast building Composite bull-breeding herd comprising Droughtmaster, South Devon and Tuli genetics (third generation composite in utero) will this year be recorded on BREEDPLAN in spite of the multiple joinings.

The pedigree Droughtmaster herd was first recorded on BREEDPLAN in 1988. "This programme suffered some setbacks in the early 90s with cattle on the road in the Northern Riverina and on agistment in South-Western NSW due to prolonged drought" says Carol. "The slow acceptance of BREEDPLAN by our buyers, meant that recording was not a priority, but in retrospect this was probably not a good management decision.

Data collected is primarily growth, scrotal, muscle and fat scans. Birth weight is not practical to collect under our conditions but the environment can cause problems in a big spring, so we are very conscious of structure, particularly in relation to shoulders".

"There is a perception out there that BREEDPLAN or ‘figures’ cattle are not practical and have poor structure. We put plenty of pressure on our cows and bull on structure irrespective of figures. High growth lean cattle are suspect as our environment can be both kind and very harsh so the cows require do-ability as a priority” observes Ed. The high mature weight cows in general have dropped out over the years on fertility criteria. Selection for growth can be controlled by the big cows falling out of the system, but I believe that hands-on experience with cows and figures should allow astute breeders to get the majority of their cows to a good level of production without too many hitting the wall when things get tough. These judgments should be made in environments which can give a run of good seasons capable of supporting extreme cows, followed by several poor seasons which can cause the calf factory to burn down”.

"BREEDPLAN is a very useful tool to us in our selection. For example it easily allows the bottom % to be dropped from the cow herd each year on performance over a number of calvings. Remembering these cows have already fulfilled our structure criteria” says Carol. “In young cattle we are not too selective on individual growth figures, providing they fit into a window. Things like sickness (eg 3-day) or short-term lameness due to physical interaction particularly in groups of young bulls, can cause aberrations in growth rates which are not genetic but very hard to document. BREEDPLAN is particularly useful for gauging the performance of sires over numbers of cows, which takes out the static”.

“Commercial bull buyers are increasingly aware of BREEDPLAN, but often see high EBVs as necessarily best, rather than looking for a balance.

Our major regret is that as yet few Droughtmaster studs have this data available, so we must sometimes select sires by eye, and cross our fingers! We have been burnt on occasions, and wasted good cows for a year in the process” concluded Ed.

Richard Apps
See also http://www.compositebeef.com.au
Noel & Dallas Daley, ‘Caiwarra’ Julia Creek, hosted a well attended Bull Selection field day organised by the NWQ BIA in early September. The keynote speaker was John Bertram, QDPI, who was nationally recognised this year by the Australian Veterinary Association for his research and extension work on bull selection and management.

Although the NWQ BIA has organised many bull selection days, the day presented new and challenging information to generate discussion and to keep NWQ producers abreast of industry developments.

Good attendance and enthusiastic participation in the practical evaluation of the bulls ensured the day was a success. The need for bull buyers to request objective information on bulls prior to purchase remains as an extremely important and ‘take-home’ message.

In addition to the value of using Brahman GROUP BREEDPLAN EBVs in bull selection, the day identified the necessity for bull buyers to expect to see a ‘Bull Examination Certificate’ completed by a veterinarian for each bull purchased demonstrating the bull’s immediate reproductive potential. That is, ‘Producers can’t afford to buy a new pair of jeans if the bull can’t transfer his genes to progeny’.

The Daley family were able to provide Estimated Breeding Values on most of the bulls that were in the yards on the day. It was an interesting exercise as many were young bulls. One in particular was younger than the others (14 months) and a bit lighter in weight, but his EBVs for 400 day weight were well above the other bulls.

The Caiwarra, Elrose & Tartrus studs will offer over 200 Brahman GROUP BREEDPLAN rated bulls at their annual sale held in Cloncurry on 23 April.

**Cloncurry BREEDPLAN Workshop**

A one day BREEDPLAN workshop was held in Cloncurry in late July 2000. The workshop was designed for stud users and those who wanted to know more about BREEDPLAN for Bull Selection. The instructors were Richard Apps from Tropical Beef Breeding Services, Rockhampton and John Bertram, QDPI, Goondiwindi.

Over 20 people attended the workshop from as far away as Katherine Rural College and the Barkly Tableland. Most of the participants were from studs and the larger pastoral companies, although there were some commercial cattlemen in attendance. Everyone who attended the workshop said that they had learnt much about BREEDPLAN from the course that they hadn’t known beforehand. It is recommended that anyone who has stud cattle or uses BREEDPLAN as one of their tools for bull selection tool should attend such a course.

**Vietnam**

A recent ACIAR project in Vietnam, is showcasing bulls from several Australian BREEDPLAN herds.

Brian Burns, QDPI Rockhampton, is OIC of the genetics, animal breeding and reproduction section of the project, which started with an initial industry survey and situation statement. As a second priority, Brian arranged training workshops on genetics, animal breeding and AI. These were held North of Hanoi and in the Central Highlands of Vietnam and also involved Rockhampton QDPI Artificial Breeding Specialist, Greg Fawcett.

The third initiative has been an experimental crossbreeding program, benchmarked against the local Laisind breed (Yellow cattle x Red Sindhi). Some 450 Laisind cows have been AI’d to the following Australian breeds: Red Brahman; Red Brangus; Droughtmaster and Belmont Red. “Our first calves are on the ground now and are looking good. We will evaluate them with simple performance records. We selected bulls with EBVs indicating moderate size and tropical adaption”, Brian told me. “Previous imports of large temperate breeds had not been successful.”

Project organisers would like to thank “Lancefield”, “Tartrus”, “BimbadeenQ”, “Woodbine”, “Mt Eugene” and “Vet Farm Uni Qld” for assisting with semen. Jack Allen and Michael Rush, from ABRI, are also involved, with other aspects of the program.
Bull fertility research continues

The Bull Power I research project, (1992 to 1997), investigated a range of physical, seminal and behavioural traits and their influence on calf getting ability. This project initially screened some 1000 bulls and progressed to collect calf output data from 212 bulls over four joinings in multiple sire mobs.

Unfortunately, but not unexpectedly, researchers concluded that there is no individual test, or tests, that explained all the variation in calf getting ability. To minimise the risk of bull failure due to infertility, each bull should be screened for a range of physical, seminal and behavioural traits. Since the conclusion of this study, further work has commenced to reassess many of the traits investigated in Bull Power I. Bull Power II is investigating the effects of: relocation of bulls; herd dispersion and changes in various traits in bulls through puberty to 2 year old. Rather than using a single pre-mating measure, the current work is taking serial measures on groups of bulls (ranging in number from 25 to 80 per group) from weaning through to 2y.o. at approximately one month intervals.

The traits being measured or scored are age, weight, body condition score, scrotal circumference, testicular tone, sheath depth and navel width, navel thickness, sheath score, sheath retractor muscle, semen traits - gross motility, percent progressive motility & percent normal, and serving capacity - interest, mounts and serves.

The data collected will provide a picture of how much and when the expression of these characteristics change as bulls mature. This will assist breeders to better time selection decisions, and particularly at younger ages as more northern bull breeders and buyers move to use younger bulls.

Bulls involved in this research are all BREEDPLAN recorded and represent a number of key northern breeds. They are Gyranda (Santa Gertrudis), Clonlara (Droughtmaster - see story page 7) Narayen Research Station (Belmont Red) and Belmont Research Station (Brahman & Belmont Red).

Serving capacity testing

Bonsmara, Belmont Red developments

Previous issues of BREEDPLAN News have outlined the initiative between the Australian Belmont Red Assoc. and the South African Bonsmara Soc. to compare these very similar breeds, lays the foundation for a possible joint genetic evaluation.

Following the initial importation of Bonsmara embryos in 1997/98, the number of purebred calves in Australia is steadily growing, with further embryos arriving for implantation this year. Bulls from the first ET programs are now being used (naturally & by AI) over Bonsmara and Belmont Red females, in both countries.

Several hundred Bonsmara x Belmont Red F1 calves are expected this year in Australia, with breeders making concerted efforts to run them alongside pure Bonsmara and Belmont Red calves to enable direct comparisons to be made through Belmont Red BREEDPLAN.

A number of breeders report they are pleased with their calves’ conformation and muscling to date, and are looking forward to the ‘EBV evaluation’ with Belmont Red cattle. Recent work in South Africa has compared Belmont and Bonsmara steers under grain finishing. This has shown very little average differences for growth, feed conversion or carcase measures. Given the very similar development of Bonsmara and Belmont Reds, a goal from this work is to increase the gene pool size from which selection can be made.

Among breeders’ goals is polling (virtually non existent in Bonsmara in South Africa) and Mort Hudson, Tremere, reports some early success in capturing the pool gene in his F1 calves.

Semen exports

Geoff Maynard, “Mt Eugene”, is also heavily involved with Bonsmara and Belmont Red. I was pleased to hear from him recently that he had exported some 20,000 straws of semen (16,000 B Red, 4,000 Bonsmara) to Brazil late last year. A large proportion went to the Vestey Leachman composite programs. They have been buying for 6 years now for a total of around 60,000 straws. The Brazilians are specially happy with the sire MTE950207. “80+% of his daughters conceived in a difficult Tropical environment. They are below av. birth weight, trait leaders for growth, and 50% of male calves have been retained as bulls” Geoff told me. Some of the Bonsmara semen is also being used on Nellore cows.

Richard Apps

MLA is co-funding the enhancement of cattle breeding technology services to tropical breeds.
In recent months David Johnston, Meridy Cadel and Toni Reverter at AGBU, have completed many genetic analyses from the CRC 1 database. This included all CRC1 progeny test results from the straightbreeding and crossbreeding experiments 1993-2000. Over 8,000 progeny by BREEDPLAN sires had production and carcase information recorded.

All results are interesting but for the moment there are 4 aspects of beef tenderness that deserve comment:

**EBVs for tenderness:** In December 2000, EBVs were released for tenderness in the tropically adapted breeds Brahman, Santa Gertrudis and Belmont Reds. There is encouraging genetic variation for the tenderness trait and the large between-sire differences in the Brahman breed provides scope for serious genetic improvement of this complex meat quality trait. In CRC I the extremes of tender and tough Brahman sires have been used to breed divergent progeny lines for evaluation in large northern herds involved in CRC I (see detail top of page 11).

**Tenderness and Meat colour:** Results from the progeny test show a low to medium heritability for meat colour. This contrasts with post slaughter pH for which the heritability is close to zero. A more fascinating result is that there is a significant negative genetic correlation (-0.45) between meat colour and tenderness (shear force). This means that the progeny of sires with lighter colour meat (ie as measured colorimetrically) will be more tender (lower shear force). Is this a simpler way to select for tenderness?

**Tenderness & Temperament:** Another interesting result is a genetic relationship between temperament (as measured by Flight speed) and tenderness in tropically adapted cattle. Here the genetic correlation is again negative (-0.43) which says that sires with faster flight speeds will produce progeny with less tender beef. Is this another valuable lead in understanding the genetics of tenderness in tropically adapted cattle? (Visual flight speed and crush temperament was also recorded. Further analysis of the usefulness of these scores is needed).

**Gene Marker for tenderness:** CSIRO’s Bill Barendse has analysed data from the CRC database looking for associations between candidate genes and extremes of beef tenderness. To do this he has chosen animals from all 7 breeds in the CRC’s progeny test and based on many sires. At this point the work has led to a provisional patent on a direct gene marker for tenderness in which the favourable gene shows a different frequency in some breeds involved in the CRC progeny test.

 Bernie Bindon

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**Spotlight on beef tenderness**

**Figure 1:** Flight speed being measured as the beast leaves the crush. The time taken between breaking two light beams, a set distance apart. This may in future be able to be recorded on data capture devices linked to scales.

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**Spotlight on beef tenderness**

**Feeder steer schools**

The 6th Annual Armidale school was again booked out and very successful. BREEDPLAN was closely involved, with 4 breeds of bulls yarded for exercises. Proceedings are available from: Peter Dundon email:- pdundon@metz.une.edu.au, or on the CRC Website - http://beef.cfc.org.au

**Marbling Seminar**

All you need to know about marbling: 3/4 October - a major CRC seminar - Northern NSW venue to be decided.