MLA’s Mark Spurr gives thumbs up

One of the first things that Mark Spurr did upon his appointment as the new Managing Director of Meat and Livestock Australia, was to spend a day in Armidale in January looking at both the technical and field aspects of livestock improvement including the operation of BREEDPLAN.

Mark has an extensive international background in the food industry, in management, administration and accounting. He was keen to see how the $3M that MLA invests per year with Armidale-based researchers is helping to revolutionise decision making systems in the beef and sheep industries. By the end of his visit, Mark gave this research and related industry servicing the “thumbs up” saying it left him with a lasting impression of being ‘world class’.

The morning session covered the meat quality research of the Beef CRC, particularly the DNA tests for marbling and tenderness; the work of AGBU in developing the genetic evaluation engine of BREEDPLAN and LAMBPLAN; the e-sheep initiatives of the Sheep CRC and the work of ABRI in delivering practical industry services based on much of the above research. The afternoon included a visit to the Angus Society and an inspection of the advanced beef cattle breeding program at the White family’s “Bald Blair” stud. Here, Mark was impressed to see a range of technologies including gene markers, BREEDPLAN, BreedObject, Net Feed Intake, Embryo Transfer, TGRM and Internet cataloguing all being combined to accelerate genetic progress and maximise seedstock marketing opportunities.

The evening was spent at “Wongwibinda” which is home for ABRI’s Chairman, Ed Wright and his wife Sally. Over dinner Mark met with a number of local commercial producers who were enthralled by his “fireside chat” which included his vision for success of Australia’s red meat industries in a tough global food market. Mark was accompanied by the MLA’s Manager of Livestock Production Innovation, Dr Len Stephens, who voted the whole exercise as a triumph in communication allowing MLA to see first-hand how the beef and sheep industries were benefiting from MLA’s investment in research.

Arthur Rickards
Managing Director, ABRI

MLA’s Mark Spurr gives thumbs up

Ed Wright, ABRI Chairman and Mark Spurr - MLA.

Sam White of Bald Blair with MLA Managing Director - Mark Spurr.

http://breedplan.une.edu.au
As I was preparing to write something interesting and useful here, I was disheartened to come across a mainstream newspaper with comment on editorials. They claimed only some 20% of people read them! As a BREEDPLAN NEWS browser, who has reached this far, you must be an above average ‘investigatory reader’. Well done!

The drought has preoccupied most Australian breeders this past year. I’ve heard some amazing stories of efforts to save herds - may this be a kinder year. Thankfully it is currently looking much better in many areas.

Some interesting stories this issue include developments with web services (p6, 20), Breed trends(p19) and great progress with overseas business. Another important BREEDPLAN item, from my perspective, is the release of the first multibreed table to put EBVs of some breeds onto a common base (see p12 - well done AGBU and David Johnston in particular). While this is initially only the weight traits of four breeds (Angus; Hereford/Poll Hereford; Limousin and Simmental) it is a good, and long awaited, start. Remember, that to do this properly needs lots of data from valid head-to-head breed comparisons. Such data is hard to get. While there was very significant assistance from the MLA-funded ‘Multibreed work’ at Hamilton in Victoria, unfortunately some of their carcase data is not useable, as lines of steers had been ‘harvested’ at different times from the commercial feedlots in which they were finished. This is the main reason the table cannot yet include the carcase EBVs such as fat depth and marbling. Hopefully you will agree that it is best to only release adjustment figures when they reach reasonable accuracy - there have been major problems in the US with their table fluctuating significantly in recent years. With the addition of some scanning and more CRC data, the Australian table will progressively be enhanced.

A next step is to add more breeds. One move towards this is shown in the picture left: Angus heifers (from “Trangie” research station) running with the main Shorthorn herd at that society’s Durham research herd near Orange. They will calve together this winter, then provide valuable comparisons to add to existing CRC data. We would be pleased to hear of any other potentially useable breed comparisons of this type.

Editor’s notes

As you can see from the photo, there are some Australian trees in Argentina. Many of these bulls also have BREEDPLAN EBVs, and some even carry Australian genetics! The picture from a bull sale in Bahia Blanca (600km SW of Buenos Aires) is provided by one of the vendors, Martin Vergara. Martin is a leading member of Grupo BREEDPLAN Angus Argentino which now has 16 members and some 5,000 cows recording with BREEDPLAN. Martin provided some notes of their activities, on the following page.
ABRI has been working with various government and private sector agencies in the Philippines on the introduction of BREEDPLAN as the national improvement system for ruminant livestock. Support for this project is being provided by the Australian Centre for International Agricultural Research (ACIAR).

The Filipinos have a two-pronged policy for meeting the strong demand which their burgeoning human population has for beef. The first policy is improving the productivity of their 2.5M head local herd and the second is importation of up to 200,000 head of live cattle per year (mainly from Australia) to grow out in local feedlots.

The Philippine National Beef Congress held in April, 2002 provided a milestone in Australian-Philippine relationships. Much of the Congress was allocated to presentations on BREEDPLAN in the Philippine context. This culminated in the President of the Federation of Cattle Raisers Associations of the Philippines (FCRAP), Mr Roberto Montalvan, presenting honorary membership of FCRAP to the Australian Registered Cattle Breeders Association’s (ARCBA) Executive Director, Mr Arthur Rickards. With this membership comes the commitment to close co-operation with ARCBA on technical and policy issues affecting the two industries. This is a welcome development because of the inter-dependence of the two industries and the uneasy trade relationship resulting from Australia’s reluctance to accept fruit and juice exports from the Philippines.

Steve Skinner is ABRI’s operational manager for the BREEDPLAN project in the Philippines. He has supervised the assembly of a significant database of breeding records from public and private sector breeding herds. Routine BREEDPLAN analyses are expected to start later in 2003. This will be a momentous step for the Philippine beef industry.

**BREEDPLAN in the Philippines**

![Arthur Rickards with the board of FCRAP after presentation of honorary membership to ARCBA](image)

Philippines (FCRAP), Mr Roberto Montalvan, presenting honorary membership of FCRAP to the Australian Registered Cattle Breeders Association’s (ARCBA) Executive Director, Mr Arthur Rickards. With this membership comes the commitment to close co-operation with ARCBA on technical and policy issues affecting the two industries. This is a welcome development because of the inter-dependence of the two industries and the uneasy trade relationship resulting from Australia’s reluctance to accept fruit and juice exports from the Philippines.

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**Argentine links expanding…. continued**

Last October 2002, the new San Patricio del Sur seedstock, created by Beno Bustingorri and myself, gave our first auction sale outside the Pampa Humeda. This was at Bahia Blanca (See photo page 2), and started our operations outside the humid area, introducing BREEDPLAN in dry areas, around 440mm. This area concentrates 700,000 head in a radius of 150km.

Before the auction, we presented the fundamentals of BREEDPLAN and selection criteria to an audience of 300 interested breeders and professionals who were surprised by the technology implemented and the results obtained. 80 black and red bulls (18 grandsons of the Australian bull Te Mania Kelp) sold to 33 buyers for a satisfactory average of $2,270.

During December we received the interesting visit of Bob Dent, advisor from Australia’s Angus Society, who shared his knowledge with the Grupo BREEDPLAN Angus Argentino members. In that opportunity we analysed the need of incorporating $Index Values and ways of relating, through genetic bridges, the Argentinean and Australian herds. We also discussed training Argentinean technicians in Australia, to help those currently working with BREEDPLAN and extend its benefits to other producers.

Together with Maximo Lischtein he visited Liniers market, the biggest cattle concentration in the world, with daily sales of 11,000 head. Then he visited my "Bueno Retiro" seedstock, which records on BREEDPLAN 500 calves per year. This herd has been selected for 25 years on adaptation to the natural environment, fertility and commercial aptitude. He then visited Carlos Sackmann’s seedstock, “Casamu”, twice winner of the National Palermo’s Championship Cattle Show, recently enrolled in BREEDPLAN. Dra. Maria Calafel, member of the Bustingorri family, and Dr. Alberto Prando from La Plata National University expressed interest in travelling to Australia to learn more about BREEDPLAN.

At the Argentinean Angus Association, Bob received a technical update about their plans, then a tango show with Bustingorri and Vergara families was a good way of saying goodbye to a new friend.

**Martin Vergara**

“Bueno Retiro” Argentina
In the April 2002 International edition of the BREEDPLAN News we reported that the South African Brahman, Simmentaler and Simbra societies had joined BREEDPLAN. We are pleased to report that both systems in South Africa are up and running and all registration and performance data is now captured from the respective offices. The feedback we have had from the respective societies is that they are very pleased with the results.

In the last 12 months many other breed societies have come on board. A warm welcome to the 18 societies of the Namibian Stud Breeders’ Association (NSBA) who have chosen BREEDPLAN International as their National Recording system. The NSBA represents 11 beef, 5 smallstock and 2 horse societies. Their system will be installed in the latter half of 2003.

The South African Brangus breed society has also decided to join BREEDPLAN. At the time we didn’t realise how difficult it would be to obtain an extract of Brangus registration and performance data from the local authorities. The Society just wants to get on with the job of offering BREEDPLAN to their clients without political interference. We thus take our hats off to them for the tenacity they have shown. Once up and running the Brangus would be keen to liaise with their Australian counterparts to get a combined analysis going.

The four South African societies who have joined BREEDPLAN represent 40% of the total beef membership and 37% of all registered females over the age of two years. Very encouraging has been the phenomenal growth in the numbers of producers who have taken up performance recording (since joining BREEDPLAN). The Simmentaler society has increased their number of cattle in performance recording from 54% to over 70% whilst the Brahman society has increased the number of members doing performance recording from 120 to over 300 members. This is proof that the introduction of BREEDPLAN into South Africa has, and will continue, to make a marked difference to our industry.

Other exciting ventures include the announcement of a National Seedstock producer of the year, cow group of the year and bull of the year competition. BREEDPLAN in Southern Africa has combined forces with South Africa’s largest Agricultural weekly (a magazine called the Landbouweekblad) to host this premier competition. We are currently negotiating with a large South African Supermarket chain (which has acquired a number of stores in Australia) to sponsor the event. BREEDPLAN in Southern Africa has also launched its own annual Southern African edition of the BREEDPLAN News. A copy can be downloaded from the www.agribsa.co.za website.

Despite the success that BREEDPLAN has had in Southern Africa there is still much work to be done. Compared to Western countries such as the US or Australia, Southern African producers selected on ratios (called an index in South Africa) for a very long time before EBVs were introduced. Thus, it is difficult to convince some producers that EBVs are here to stay and that BLUP is truly able to separate genetic and environmental effects. Many producers also calve throughout the year. This management practice makes contemporary group sizes very small and it becomes very difficult to obtain reproduction EBVs such as days to calving. A few producers are yet to be convinced of the management and financial benefits that a defined calving season has. There is clearly much work to be done in the field and a number of BREEDPLAN courses will again be given this year.

Despite our disappointments in the cricket world cup, BREEDPLAN Seedstock producers have a lot to look forward to over the coming year. Our Internet functions are proving very popular and semen and embryos have been sold to overseas clients. We look forward to introducing new traits such as days to calving into the system once historical data issues have been addressed. The HerdMASTER windows-based on farm management program will also soon be launched in Southern Africa. Finally, producers in South Africa would like to thank and compliment the ABRI team on a job well done.

Michael Bradfield

http://breedplan.une.edu.au
Overseas developments

New Zealand focus

2002 was a particularly busy year for the New Zealand seedstock industry. Early in the year considerable time was spent evaluating new and not-so-new technologies offered by BREEDPLAN as part of their contracts with various breed societies. In 2001 they had been introduced to the new internet-based program (see also page 20), Internet Solutions, and by autumn of 2002, most societies had taken up this option. The weekly updated database, the powerful search engine and the capability of generating sale catalogues were strongly appealing features. Since being installed, this new technology has been used heavily by both commercial and seedstock producers.

$ Indexes

The not-so-new technology, adopted by a number of breed societies, is another internet-based program, BreedObject $ Indexes (see also page 18). When this program was first developed, New Zealand produced a customised version, called the Sire Selector, to cater for our unique production systems. The latter has been used by New Zealand beef producers to select bulls, based on their profitability per cow mated, in specific production systems. It was decided last year, by a number of breed societies, to adopt BreedObject in preference to the Sire Selector since the latter required upgrading, at considerable expense and also most felt there was little point in 're-inventing the wheel'.

In February of 2002, I spent time with AGBU's Wayne Upton and Steve Barwick developing a greater understanding of BreedObject and also initiating its customisation for New Zealand breeds and production systems. Developing customised Indexes for each of the breeds, has been a very worthwhile exercise as it has forced each of the breeds to revisit their breeding objectives. In some cases they admitted having become slightly derailed and needed to get back on track. Overall, progress has been slow but steady as each society realises it must get the economic weightings correct to facilitate acceptance by its membership and commercial clients. It is hoped that by the start of the bull-selling season in 2003, most breeds will have developed their Indexes. A national series of BreedObject workshops is planned for late April 2003, using the expertise of AGBU's Wayne Upton.

Bull Sales

Graphics in catalogues - At a recent meeting of the New Zealand Beef Expo National Bull Sale Committee, it was decided to use the BREEDPLAN version of the 'genetic picture' graphs of EBVs in sale catalogues (See below and page 20). For four years, New Zealand has used its own pictorial version, however, after much deliberation it was felt that as the BREEDPLAN version was accessible through Internet Solutions and was less expensive to implement, it would be prudent to use it. The 'picture', to the left, will supplement the usual BREEDPLAN format for displaying EBVs and it is hoped will be a more appealing selection tool, particularly to commercial buyers.

No raw data - The societies participating in the Expo have also moved strongly to abolish the presentation of raw data at the sale. This will focus potential purchasers on meaningful genetic information and remove the conflict often occurring when EBVs and raw data are presented together.

Russell Priest

Meat New Zealand

Beef Genetics Co-ordinator

Bull Sales

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Russell Priest
Overseas developments

Leader in North America

ABRI has recently become a leader in the provision of livestock recording services in North America if measured by the number of sites installed. We now have nine (9) powerful servers running in breed associations in North America and using BREEDPLAN International software. These are shown in the attached map. Three breed associations have their databases run out of the computer in Calgary (Canadian Angus office) and four (4) associations from the office of the American Salers in Denver. That makes 14 breed associations serviced overall. These cover a broad cross section of the North American livestock industries. For example, the systems in Quebec, Guelph and Westerville provide services to the dairy sector; the North American Elk have a system in Kansas City and the other five (5) sites are for beef breeds. The combined databases of our North American clients include records on 30 million animals.

Of course, only the beef breeds use the BREEDPLAN genetic evaluation service. In total they process performance records on around 157,000 calves through some or all of the BREEDPLAN options. That number is already 19% higher than the weaning weights processed by all breeds in Australia - so geographic diversification is paying off. The distribution of weaning weights processed by breed from North America is given below.

![Distribution of weaning weights processed on BREEDPLAN by breed from North America.]

CAAB feedback system

In January, the Angus Society of Australia placed its CAAB Feedback System and ASA Tagging System on Internet Solutions. This captures data from abattoirs as email files and provides a WEB-based graphic representation of carcase results on progeny of individual producers against all progeny slaughtered in the same lot. Sire comparisons are also produced. This system is understandably attracting a good deal of international interest.

New Graphic Design service

ABRI’s Internet Solutions service has become so popular that we are now providing graphic design and WEB Page development services to breed society clients and individual breeders. The service is headed up by Heather Frazier who also does the layout and design of BREEDPLAN News. Heather is in her third year with ABRI having completed a 4 year graphic design degree at the University of Newcastle. The second member of Heather’s team is Amanda McNeill-Perkins who also has a number of years of PC training including commercial experience.

So if you wish to have high-quality WEB pages that link to ABRI’s databases or brochures, corporate stationery/logo, promotional items and posters designed, please contact Heather on 02 6773 3185 or email: heather.frazier@abri.une.edu.au.

![Amanda McNeill-Perkins and Heather Frazier.]

http://breedplan.une.edu.au
Recent estimates of genetic trends in the $Indexes published through BREEDPLAN show increasing rates of genetic gain and potential profitability in most of the performance-recorded breeds. These gains are worth millions of dollars to industry, as confirmed by a recent MLA-commissioned review. One graph from this review, for Angus for the long-fed Japanese market is shown below. [Note it differs a little from a graph in this year's Angus Sire Summary. This one has points in BREEDPLAN's history noted eg: introduction of carcase EBVs.] As with all $Indexes the units are $per cow joined in a self-replacing herd.

The gains are a tribute to the efforts of seed-stock breeders, both to give greater attention to selection and to improve the level of performance recording contributing to BREEDPLAN records.

The more recent gains are thought to reflect increasing attention being given to EBVs that address carcase and cow herd performance in addition to growth (see also page 19). As expected, the rates of gain are higher in breeds and herds with superior levels of performance recording. Differences in rate of gain between breeds can be as much as 3-4 times and between herds, considerably more.

Another factor contributing to these gains is increasing use of the $Indexes. These Indexes, developed with BreedObject, are now widely available for most animals of the Angus, Hereford, Limousin, Murray Grey, Polled Hereford, Shorthorn and Simmental breeds. They are being trialled in Brahman and Charolais, and in a number of large Composite programs that use BREEDPLAN.

In response to demand, an enhanced capacity has also been developed for breeders to develop their own customised $Indexes. This capability is contained in the BreedObject website [http://www.breedobject.com](http://www.breedobject.com) and will be available in coming months. Another new feature will be the ability to search Breed Society sites for sale listings, then run customised $Indexes for these.

A pleasing development has been the recent adoption, by $Index user groups, of protocols on minimum amounts of performance records for publication of Indexes.

Steve Barwick
AGBU Ph: 02 6773 3481

Handling large AI programs

Early this year I spoke at a field day at "Lawsons Angus" at Yea (100km NE of Melbourne). They currently record on BREEDPLAN 1,500 AI and 500 ET calves. With such a big AB program spread over several properties, quality mobile facilities are essential. The AI barn pictured, is helping them achieve very good pregnancy rates. Ultrasound is also a key technology in the program. As well as the 'normal' uses such as pregnancy testing, Tom Lawson also sexes foetuses - only in high value sale females, as the technique is very slow.

Another implication of large AB programs is deciding all the matings. The Lawsons use TGRM (Total Genetic Resource Management). This computer program allocates matings to optimise $Indexes without too much inbreeding and within specified EBV ranges. TGRM is now being delivered under licence by some semen providers as part of their overall breeding package eg: Elders Breeding Services' Breedexact®, ABRI (Brad Crook) and AGBU (Wayne Upton) also offer TGRM consulting and analysis services.

BS

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In brief

New scrotal tape

Carel Teseling recently showed me an interesting 'scrotal measuring gadget he brought from South Africa. It is about a metre long, with telescoping handle, the inner part is attached to a loop which is placed around the scrotum. As the inner handle is pulled out to firm up the loop, measurements are read from a tape on this handle. According to Carel (Phone: 02 6773 4602) it is accurate, but requires practice with the technique.

The unit retails for $40. It may not suit some crushes/Breeds/weather conditions, but seems well worth investigating if you are not happy with your current system.

Remember: scrotal measurements for BREEDPLAN can be up to 700 days, but are generally preferred on yearlings to obtain the best prediction of the fertility of female relatives.

Separating milk and growth

Last August I helped run, and spoke at, a CRC weaner production workshop at Busselton in the South West of Western Australia. I was pleased to share the platform with a local BREEDPLAN member - Ken Macleay, "Blackrock" Angus. His presentation included an interesting demonstration on how BREEDPLAN describes and differentiates between the milk and growth effects on weaning weight (200 day).

Two cows, with very different milk and growth EBVs (see right), were joined to the same sire. They both had bull calves, born within two days. "They weaned at similar weights" according to Ken - "and looked very much the same". At 18 months however, when their 600 day weight and the photo were taken, they looked and weighed very differently. The growth EBVs had really expressed themselves (see table 1 with raw weights in Kg of the two bulls).

Bull A was then 170kg heavier. Up to weaning, the high Milk of cow B had boosted her calf's weight and 'visually hidden' his lower growth EBVs.

Not all examples are as clear as this of course, but as Ken concluded, "It demonstrates the BREEDPLAN system for separating milk and growth does work, and the differences were predicted pre-birth. Milk is hard to assess visually as it is influenced by so many environmental effects. Actual weaning weights can also be influenced by calves having high or low growth genetics. Therefore you need BREEDPLAN to make any genetic progress (up or down) - in some situations of course, too much milk can be a disadvantage."

### TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>birth Wt</th>
<th>200d Wt</th>
<th>600d Wt</th>
</tr>
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<tbody>
<tr>
<td>Bull A</td>
<td>34kg</td>
<td>265 kg</td>
<td>738kg</td>
</tr>
<tr>
<td>Bull B</td>
<td>28</td>
<td>258</td>
<td>570</td>
</tr>
</tbody>
</table>

Bull progeny at 18 months, A on right. (Same sire, same age and same weaning weight).
BREEDPLAN in semi-arid areas

Sometimes I come across the misconception that BREEDPLAN use by commercial breeders (in their bull buying), is only applicable in more intensive areas. I recently heard a talk by Mat Smith “New Crown” Station, Alice Springs, firmly dispelling this myth.

Mat Smith and his wife Vanessa run a 3500 cow herd on a 7600sq Km station, 480 Km South East of Alice Springs. Average rainfall is 175mm, while this would certainly be regarded as semi-arid, the country is relatively ‘soft’, allowing British breeds to be run, predominantly Angus. Turn off is very seasonal, but generally steers are grown out, and then sent south for finishing. Several years ago, they decided to send their steers through the Certified Aust Angus Beef (CAAB) program at the Cargill feedlot and abattoir near Wagga. Milk tooth steers averaging 465 kg, take 7 days for the approx. 1700 km trip to Wagga Wagga including a spell at Steele Angel feedlot, in South Australia, en route.

While the first lines of steers did quite well, Matt decided to further improve compliance by increasing marbling. They introduced a draft of high marbling EBV bulls, via their bull breeding Stud ‘Gunnadoo’ in South Australia. Feedback from Cargills has been very encouraging. The second line of 59 steers by the new high marbling bulls achieved marbling scores of 0 - 1%, 1 - 42%, 2 - 50%, 3 - 5% and 4 - 1% compared to marbling scores of 0 - 51% to 1 - 49% the year before. Seasonal conditions had been very similar as shown by the steers being the same weight although at a younger age on leaving “New Crown”. The average daily weight gain and kill weights of 580kg and 584kg respectively also remained similar.

“We think it was mainly the new genetics” said Mat. “As well as improving marbling, we use BREEDPLAN to ensure replacement females will be suited to our challenging environment. We select for moderate milk (under 10kg) and mature size EBVs and positive fat and scrotal size. Very big, lean and high milking strains will not rebreed here, but by using the right EBV profile we can dodge these”, he concluded.

The moral: Whatever the environment and market, BREEDPLAN can assist selection of the right bulls and of course, higher EBVs are not always better!

Livestock advisers working with BREEDPLAN have always recommended using EBVs in conjunction with visual assessment of soundness and structure. While visual skills will always be required, new developments may lead to some structural EBVs to assist. An MLA PIRD project to develop a structural soundness scoring system was conducted by the Beef Improvement Association (BIA) and the Victorian Angus Technical Committee (Robert Campbell heavily involved). Two follow up workshops were attended by 17 people who agreed on the economically important traits. Analysis of repeat scores showed that skilled assessors can consistently score a range of structural traits. Ten people have since become accredited BeefClass Structure scorers (See BREEDPLAN website). This system is for describing an animal’s physical appearance e.g. for sale catalogues and to provide data for genetic analysis allowing prediction of the structure of progeny.

Fifteen BeefClass Structural Assessment Scores are available for use:

- Several feet leg and udder traits are scored on a 1 to 9 linear scale.
- Muscling: Scored from A+ (very heavy muscled) to E- (lighty muscled) as used by the National Livestock Reporting Service. (NLRS)
- Fat: Score from 1 to 6 as used by NLRS.
- Capacity(1 to 5): Higher capacity (volume), higher score.
- Sheath(1 to 5): Closer to the body, the higher the score.
- Temperament(1 to 5): Quieter animals have lower scores.

Future EBVs for Structural Traits?
Structural traits assessed in the PIRD project, were analysed by AGBU and exhibited moderate to high levels of heritability (0.17 to 0.39). These estimates are in line with dairy results, suggesting that selection can be effective. Structural Assessment data from accredited scorers can now be submitted to BREEDPLAN. When enough data is held, scores will be analysed for possible EBV development. It is well recognised that the environment influences structure, just as it does the production traits. Hopefully, in the future, structure EBVs will assist semen and bull buyers by removing environmental effects.

http://breedplan.une.edu.au
Fat V fertility in the north

The Beef Quality CRC* is studying links between the genetics of beef quality and female reproductive fitness in northern Australia. For instance, does selection for meat quality, carcase yield or feed efficiency affect fertility and adaptation to harsh environments? Results from this trial will also further strengthen BREEDPLAN for Tropical breeds. Key indicators will be feed efficiency, female fertility, beef quality, carcase yield and adaptation to tropical environments.

The project is jointly funded by CRC, MLA and the Australian Centre for International Agricultural Research (ACIAR) with an important South African linkage. Key sponsors breeding calves for the project are the Northern Pastoral Group (NPG) of Companies; Stanbroke, NAPCO, Consolidated Pastoral Co, AA Co, E & G Maynard, J McCamley, C. Briggs, Kidman Holdings and QDPI.

The breeding program commenced in 2000, and 4,800 calves have been generated over four years. Some 3,000 each Brahman and Red Composite cows, have been joined to Sires high and low in Yield% and IMF% EBVs and with known gene marker profiles. There are also sires nominated by the industry partners. Steers are grown out at “Tullimba” (Armidale), “Kiargathur Station” (Condobolin), Brigalow Research Station (Theodore) or “Berrigurra” (Blackwater QLD). At around 420 kg they go on feed for 110 days in the “Tullimba” research feedlot, until they reach 320-340 kg carcase weight, then processed at Grantham abattoir. All steers are implanted with Elanco HGP’s to reflect industry practice.

Progress has been amazing, considering the drought: The fourth, and last, calving was completed this summer 02/03. (“Belmont”, “Alexandria Station” and “Beresford”); The ’00 and ’01 heifers have recently been joined at the various research stations (“Belmont”, “Brian Pastures”, “Toorak” and “Swans Lagoon”);

The ’01 Steers have mostly been grown out, finished at “Tullimba” research feedlot (with feed efficiency measured) and slaughtered. The ’02 steers and heifers are at various grow-out locations, heifers to be mated Nov/Dec ‘03. Projects such as this need all the data in and careful analysis before releasing full results. Some generalised early heifer pregnancy data, below, may however be of interest re female condition and fertility and also an indicator of the type of results to come.

Potential results of scanned fat thickness at start of joining and subsequent pregnancy rate show a significant relationship between rump (but not rib) fat depth and pregnancy for all classes of breeding females (lactating and non-lactating; different age groups corrected for weight). Every 1 mm increase in rump fat represented a 1.2% increase in pregnancy rate over a base of 65% See Figure 1 above.

Once heifers reach 200kg, scanning is also used to monitor ovarian function and study factors affecting puberty. They are scanned every 4-8 weeks until a corpus luteum (CL) is detected and they are deemed to have reached puberty. Scanning continues during joining to determine: i) when heifers that were anoestrous into mating commence oestrous activity; ii) early pregnancies and possibly extent of embryonic losses and iii) time of return to oestrous of lactating females.

The different genotypes of heifers are allocated equally across different research station grow-out environments. These range from hot dry climates with no ticks and low worm burdens to dry tropical environments with hot, humid summers, unimproved to partly improved spear-grass country with varying levels of tick, worm and buffalo fly burdens. Early results in heifers up to 2 years of age show strong breed and environmental effects on age and weight at puberty. Average weights of different groups as 2 year old at start of joining, ranged from 250kg to 375kg, rump fat from 2mm to 5mm and puberty from 13% to 94% (as measured by CL scans).

Heather Burrow (CSIRO Rockhampton) and Brian Sundstrom.
Another major project for CRC II, is a study of 'best bet' regional combinations of genotype and nutrition. There are four sites across southern Australia, Struan, South Australia, Wagenup in WA, Hamilton Victoria and Griffith, NSW. They are each testing nutritional options relevant to their region, allowing lines of steers of different genetic potential (for carcase type) to be grown at different rates, and finished for various markets. The NSW site is "Bringagee" station (Ag Reserves Australia), near Griffith. It is supervised by NSW Agriculture researchers John Wilkins, John Irwin and Bill McKiernan.

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Groups of 500-700 Hereford cows are involved at each of 5 matings for Spring and Autumn calving groups. These are being joined by AI to five carcase types, each represented by eight sires (40 total):-

- **Angus** High Yield % EBVs (Ay)
- **Angus** High IMF % EBVs (Am)
- **Angus** High Yield % and IMF % EBVs (Aym)
- **Wagyu Black** (Wb) and **Wagyu Red** (Wr)
- **Charolais** (C) and **Limousin** (L)

After weaning, the steer progeny either follow High or Low growth paths to reach (average) 400kg feedlot entry weight at either 13 or 19 months of age. This split calving allows the Low growth group from one calving to join the High group from the following calving to come together for finishing and slaughter (at Cargill's "Jindalee" feedlot near Temora and their Wagga works). This is essential for valid comparison of performance and carcase quality between groups.

In spring 2002, they completed the last of 5 matings and the fourth calving. The first feedlot group has just been slaughtered (March) and the second group put on feed. There is a similar experiment at Hamilton in Western Victoria. This year, one of the grass finished slaughter groups from Hamilton was processed at the same time and works, further strengthening links across project sites.

Table 1 shows some raw averages for the breed groups from "Bringadee". This has not had final adjustments and is provided here to show some trends and the ranges, eg The feedlot weights are from a group with a six week calving spread.

John Wilkins - NSW Agriculture, Wagga and BS

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**Table 1 - Raw averages at Birth(4 calvings), Weaning(3), and feedlot entry (1).**

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<th>Ay</th>
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<th>C</th>
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<th>Wb</th>
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<tbody>
<tr>
<td>Gestation Length (days)</td>
<td>283</td>
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<td>282</td>
<td>286</td>
<td>287</td>
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</tr>
<tr>
<td>BWT (Kg)</td>
<td>35</td>
<td>35</td>
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<td>35</td>
<td>35</td>
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</tr>
<tr>
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<td>7.5</td>
<td>7</td>
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<td>10.5</td>
<td>9.5</td>
<td>6.5</td>
<td>7.5</td>
</tr>
<tr>
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<td>3</td>
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<tr>
<td>Feedlot Entry Av Wt (kg)</td>
<td>390</td>
<td>414</td>
<td>399</td>
<td>423</td>
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**Genotype V Growth path in the south**

*CRC* - Co-Operative Research Centre for the cattle and beef industries. A research grouping of NSW Agriculture, CSIRO, QDPI, University of New England.
First Australian multi-breed EBVs

Data analysis at AGBU over the past 6 months has allowed the development of the first conversion table for BREEDPLAN multi-breed EBVs. We have initially used 2,500 records from the Victorian Multi-breed EBV project, (Hereford, Angus, Limousin and Simmental) and 1,800 records from the Beef CRC1 Northern Crossbreed Project (9 breeds over Brahman cows) See detail opposite. This has produced sufficiently accurate comparisons of four breeds for the growth traits. While we would have liked conversions for more breeds and traits, the required accuracy was unfortunately not possible from current data. We hope though, that this will be a sound start on which we can build.

An adjustment table

Our initial move towards development of full multi-breed BREEDPLAN EBVs has been to produce a simple conversion table based on the above data. This gives adjustment factors to add to within breed EBVs, making them comparable across breeds. Table 1 gives these adjustments for the growth traits for Angus, Poll/Hereford, Limousin and Simmental. Currently, only EBVs for gestation length and the weight traits can be compared across these four breeds. Further research is underway to add more traits and develop methodology for BREEDPLAN multi-breed EBVs from combined datasets.

Examples: To compare an Angus bull with a birth weight EBV from Angus BREEDPLAN with a Limousin bull with its Limousin BREEDPLAN birth weight EBV, you would add 0.1. The Victorian multi-breed project, which used 22 sires from each of Angus, Hereford, Limousin and Simmental, mated to Angus and Hereford cows in Southern Australia in 1997 and 1998, across 19 herds. All sires had BREEDPLAN EBVs and represented a spread in the 400d weight EBV of their breed. Sires with extreme birth weight were not used. 2566 calves were generated and their management and performance recorded for numerous traits. 2. The Beef CRC design involved 9 sire breeds joined to Brahman cows in 1993, to 1995 in 2 herds in sub-tropical central Queensland. Progeny of the 8 sire breeds with BREEDPLAN EBVs were analyzed in this work; Brahman, Belmont Red, Santa Gertrudis, Angus, Hereford, Shorthorn, Charolais and Limousin. Calves were generated by AI and natural mating and at weaning allocated to growing out treatment groups, comprising market weight and finishing regimes. Sires per breed ranged from 8-15. There were 7 sires in common across the 2 projects.

A first step in our use of this table involved adjusting it to the BREEDPLAN definitions, for known environmental effects, then estimating sire breed differences for each trait. The average BREEDPLAN EBVs of the sires used in the projects for each trait, were then obtained. These two pieces of information were used to compute adjustment factors to add to within breed EBVs to make them comparable across breeds.

Methodology used to develop the table

Data for our analyses came from: 1. The Victorian multi-breed project, which used 22 sires from each of Angus, Hereford, Limousin and Simmental, mated to Angus and Hereford cows in Southern Australia in 1997 and 1998, across 19 herds. All sires had BREEDPLAN EBVs and represented a spread in the 400d weight EBV of their breed. Sires with extreme birth weight were not used. 2566 calves were generated and their management and performance recorded for numerous traits. 2. The Beef CRC design involved 9 sire breeds joined to Brahman cows in 1993, to 1995 in 2 herds in sub-tropical central Queensland. Progeny of the 8 sire breeds with BREEDPLAN analyses were considered in this work; Brahman, Belmont Red, Santa Gertrudis, Angus, Hereford, Shorthorn, Charolais and Limousin. Calves were generated by AI and natural mating and at weaning allocated to growing out treatment groups, comprising market weight and finishing regimes. Sires per breed ranged from 8-15. There were 7 sires in common across the 2 projects.

Some cautions

* There are currently no conversions for traits other than those in Table 1 e.g. calving ease, milk, carcase EBVs etc, are not yet comparable across breeds. Therefore, care should be taken when using current multi-breed EBVs not to ignore the EBVs for the other very important traits.

* Remember EBVs are not absolutes. They give a best possible estimate of the expected differences between animals for a particular trait. The same applies for multi-breed EBVs, which can be used to predict the expected difference in the progeny of animals from different breeds. There is, however, an additional consideration with multi-breed EBVs as the expected difference is also dependant on the cow breed used. (crosses generate hybrid vigour in the progeny).

There are a couple of scenarios that should be explained. Firstly, if we use the multi-breed EBVs from 2 bulls, an Angus and a Hereford, both joined to a third breed (e.g. Shorthorn) hybrid vigour is expected to be similar and therefore the EBVs predict the difference in the progeny. However, if the cow breed was Angus then the Angus progeny would exhibit no hybrid vigour but the Hereford cross progeny would. Therefore, in this case the expected progeny difference predicted by the Multi-breed EBV would need to include an estimate of hybrid vigour.

* Adjustments in Table 1 are estimates and therefore we can expect them to change with additional breed comparison data. The accuracy of a Multi-breed EBV is therefore lower than when the EBV is used within a breed.

David Johnston

Table 1 - MULTIBREED EBV ADJUSTMENT TABLE (March 2003).

To produce multi-breed EBVs, add to an animal's existing within breed BREEDPLAN EBV for each trait, the amount listed in this Table. (This is not a breed comparison table. See table 2)

<table>
<thead>
<tr>
<th>TRAITS</th>
<th>TRAITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gest. length</td>
<td>Birth Wt</td>
</tr>
<tr>
<td>200d Wt</td>
<td>400d Wt</td>
</tr>
<tr>
<td>Carcase Wt</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 - Examples of multibreed EBVs (adjustments from Table 1 added to within breed BREEDPLAN EBVs).

<table>
<thead>
<tr>
<th>Breed</th>
<th>Gestation Length EBV</th>
<th>Birth WT EBV</th>
<th>400d WT EBV</th>
<th>Carcase WT EBV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>+1.3</td>
<td>+0.0</td>
<td>-1.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Poll/Hereford</td>
<td>0.0</td>
<td>+1.1</td>
<td>+1.1</td>
<td>4.0</td>
</tr>
<tr>
<td>Limousin</td>
<td>-0.5</td>
<td>+9.2</td>
<td>+8.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Simmental</td>
<td>-0.3</td>
<td>+6.4</td>
<td>+6.1</td>
<td>1.6</td>
</tr>
</tbody>
</table>

http://breedplan.une.edu.au
Improving the female fertility EBVs

For a number of years BREEDPLAN has computed EBVs for the female fertility trait Days to Calving. To calculate this EBV we use the natural mating details and birth dates recorded by breeders every year. Cows which have been mated and don’t calve get a penalty so that their records get included in the analysis. However, for faster genetic progress we recommend the use of your best sires across herds via AI. The increasing use of AI in some breeds has led to a reduction in days to calving records thus decreasing the accuracy of EBVs for the cows themselves and for their sires.

AGBU scientists, led by Dorothy Robinson from NSW Agriculture, have recently investigated the possible use of AI data to estimate female fertility EBVs in Angus cattle. By carefully selecting quality AI data she was able to mimic days to calving from natural matings. Heifers and cows in an AI program were compared within a herd and season and Days to Calving calculated from the first AI date in the group, equivalent to bull in-date, to the calving date of the female. Non-calvers received a penalty days to calving record. This new trait was estimated to be lowly heritable 5-6%, which is similar to the natural mating days to calving.

The research also found that days to calving from AI as defined above is genetically well correlated (greater than 0.60) with days to calving from natural matings. If we can repeat such findings in other breeds we hope to soon expand the BREEDPLAN system to include days to calving from AI to increase the accuracy of EBVs of days to calving from natural matings. As we have tens of thousands of such records we expect a considerable improvement in the genetic evaluations of breeds with high levels of AI. However to get quality data breeders should consider the following in their recording procedures.

1. Record all AI date(s) of all cows and heifers in a year
2. If heat observation and joining is started at different dates for different groups of cows or heifers record this as management group
3. Record if the AI program was synchronised
4. Record if females are sold prior to calving and if this is due to not being in calf eg: after Preg. testing.
5. Record birth date of calves as accurate as possible.

David Johnston
(Another story from AGBU, Page 7)

IGF - I blood test to improve Net Feed Intake EBVs

During 2002 scientists from AGBU and NSW Agriculture investigated the potential use of Insulin Like Growth Factor I (IGF-I) in seedstock herds (See also BREEDPLAN News 02). Blood samples were collected from over 7,000 calves prior to or at weaning and analysed for IGF-I levels by Primegro Ltd. The collection of the samples was funded by MLA and Primegro Ltd, an Adelaide-based company, which has an exclusive licence to market the patented IGF-I test, funded the analysis of the samples.

In pigs it has been shown that IGF-I is genetically correlated to some economically important production traits. Pigs with a genetic disposition for low IGF-I levels will grow slightly faster, are leaner, and have an improved feed efficiency. These correlations are strong enough to include IGF-I as a selection criterion in pig selection indices. Does this also hold in beef cattle?

An analysis on the first 1/3 of the data, which has been collected during 2002, shows that this might be true. Calves with the genetic potential for lower IGF-I values had relatives that grew faster, were leaner and had lower net feed intake. The sample however is still very small and we have to wait until the middle of 2003 to collect all growth and scan information on the 7000 + animals for which IGF-I was determined.

If the final results from this study are as good as the early ones then IGF-I will be used as a selection criteria to increase the accuracy of the Net Feed Intake (NFI) EBVs; however a separate EBV for IGF-I will not be published.

Hans Graser
Reg Woodgate, New South Wales Agriculture at Armidale has collected most of the 8,500 blood samples to date. The blood is collected on simple absorbent paper cards, shown above.

If breeders want to shortcut the development they could collect blood samples from their next weaners and have the sample cards stored and only analysed by Primegro once the final results from this study become available. This would give them a head start in the collection of data and earlier NFI EBVs with increased accuracies.

MLA is co-funding these and other AGBU projects

*AGBU is a joint venture of NSW Agriculture and the University of New England. They are responsible for developing and maintaining BREEDPLAN software.
Ph: 02 6773 2055
Web: http://agbu.une.edu.au

MLA is co-funding these and other AGBU projects

http://breedplan.une.edu.au
Looking to the future

Saltbush Agricultural Software
As the technology revolution continues to storm through rural Australia, Saltbush Agricultural Software is proud to be at the forefront of the latest developments in herd recording systems. With over 20 years of experience in developing on-farm software to meet the needs of livestock producers, Saltbush continues to provide clients with powerful solutions in data capture, herd management and performance analysis. The Australian release of HerdMASTER in 2002, was the starting point for some major innovation and development, and the Saltbush team have been working hard to deliver the Herd Recording package of the future! Make sure that you call into the Saltbush site at Beef 2003 to see HerdMASTER.Net in action, along with other Saltbush program demonstrations and special offers!

HerdMASTER… livestock recording for the future
With hundreds of HerdMASTER programs already in use worldwide, Saltbush Software is continuing its drive forward with HerdMASTER development. Initially designed as an on-farm Herd Recording package for the American Hereford Association, HerdMASTER is now being used throughout Australia, New Zealand, Canada and South Africa. Latest developments have seen the HerdMASTER program updated using the latest in Microsoft technologies. HerdMASTER.Net, the future of livestock recording has arrived, and it’s due to be launched at Beef 2003!

What is .Net? (dot Net)
The Microsoft®.Net framework is a common set of tools, which allow for the communication of information between a variety of systems. This means that information can flow from web servers to personal computers, or hand-held computers, seamlessly.

HerdMASTER.Net has the ability to offer users the following benefits:
- Full integration with your Windows Operating System, meaning that installation of HerdMASTER.Net is seamless
- The use of an SQL Database will enable increased data security and program performance
- Multi-user access (including multiple user login on a single computer)
- Multi-species management
- Accessibility over a Local Area Network for multiple computers
- Centralised database capabilities for multi-herd data management
- Web ready interface for Browser access over the internet

Other improved on-farm benefits include:
- Pocket PC version for field data collection and animal enquiries
- Powerful Filters allowing selection on every field in the database
- Extensive tracking of animal costs through procedure history
- Superior management reporting/benchmarking capabilities
- Storage of animal and contact photos
- Customized data entry screens for streamlined recording
- Data capture based on Electronic Identification along with Quality Assurance recording and integration with the National Livestock Identification Scheme.

The HerdMASTER.Net program has been designed to revolutionise your herd recording and provide you with the ability to move forward as technology evolves, so you will always be at the leading-edge! The event driven design of
HerdMASTER .Net means that the package can operate not only as a database to store information, but as a complete herd management tool. The action diary can be used to keep track of what needs to be done, and when, assisting with the planning of tasks on a day-to-day basis. With powerful reporting, streamlined data entry and the ability to access your animal information from anywhere in the world, HerdMASTER .Net will become the herd management tool you just can't live without!

Cash Magic - accounting made easy!
If you are looking for an easy-to-use Accounting Package, with GST recording made so simple - look no further than Saltbush's Cash Magic! Living up to its name, Cash Magic really makes financial record keeping a breeze. With streamlined GST Reporting, Cash and Accrual accounting options, budgeting and livestock reconciliation, Cash Magic is the package you need for total farm accounting. Saltbush is currently offering Cash Magic and a combined HerdMASTER/Cash Magic package at very special prices! Contact the Sales and Support Centre on 1800 111 637 for more information.

Trials and Training
We understand how important it is to select the right software program for your needs - it is a long-term investment and you need to be confident with the product and its backup support. To make this decision as straightforward as possible, all Saltbush programs are available to trial before you decide to buy! Providing you with an understanding of the program and Saltbush's high quality backup service, trials are complete with a Getting Started Guide, and full access to the Help Desk throughout the 45 day trial period. Saltbush also offers professional introductory and advanced FarmBis accredited training schools for groups and individuals Australia wide. Contact the Sales & Support Centre for more information on how you can access a trial or training today!

Winners!!
Readers of the Christmas Edition of the ABRI Newsletter were able to enter a draw for a year's worth of Free Support by completing the Saltbush Crossword. The lucky winner was Andrew Taylor, an Angus breeder from Nairne in South Australia. Andrew uses Saltbush's Cash Magic and Herd Magic programs and has won 12 months Free Support and Upgrades for Herd Magic.

Jo Quigley

Looking to the future

HerdMASTER Special offer - Order Form

NAME: ...................................................... POSTAL ADDRESS: .............................................................

STATE: .................... POSTCODE: ..........................................

DAYTIME PHONE:(0.....) ................................................. FAX NUMBER:(0.....) ...........................................

ORDER REQUEST - (please tick)

☐ HerdMASTER - RRP $990.00 SAVING $110.00 SPECIAL OFFER $880.00

☐ HerdMASTER upgrade - (from Herd Magic/Cattle Plus) RRP $495 SAVING $50.00 SPECIAL OFFER $445.00

☐ HerdMASTER upgrade - (from Herd Magic with current SMA) RRP $300.00 SAVING $50.00 SPECIAL OFFER $250.00

PAYMENT - (please tick)

☐ Mastercard ☐ VISA ☐ Cheque ☐ Money Order

CARD NUMBER - ........................................ EXPIRY DATE - ...... /...... ......

Please make cheque/money order payable to Saltbush Agricultural Software. Offer expires 30/06/03

Ph: 1800 111 637
Fax: 02 6773 3950
Email: sales@saltbush.une.edu.au
Web: http://saltbush.une.edu.au

Saltbush Agricultural Software

http://breedplan.une.edu.au

Breedplan News - Issue 13, April 2003

15
Tropical breed developments

“Valinor” - tropically adapted breeding

Ian and Di McCauley, principals of Valinor Grazing Co, have been breeding tropically adapted Bos Taurus for over 25 years. Their CattleCare accredited property is in the Callide Valley to the north of Biloela in Central Queensland.

The 1000ha of grazing country is predominantly cleared softwood scrub, improved with buffel, green panic and butterfly pea. More recently, the McCauley’s have introduced stands of Leucaena, which is a native of South America, into their grazing system. This has a high nutritive value for a tropical or sub-tropical forage plant with leaf protein levels approaching that of lucerne and clover. Ian comments that leucaena, once established and if managed correctly, is very tough and productive. They most commonly use it to finish steers or to supplement sale bulls.

Their 200 stud breeders are primarily Belmont Reds but with the current introduction of Bonsmara and Senepol genetics, this is set to change. (Bonsmara and Senepol are tropically adapted Bos Taurus breeds developed in South Africa and the Virgin Islands (Caribbean) respectively). Ian adds “their introduction into our Belmont Red herd will achieve a controlled extension of tropically adapted Bos Taurus genetics.”

“We are not into breeds as such, but more interested in producing tropical animals that cover all commercially important traits. Our aim is to end up with purebred lines of Bonsmara and Senepol along with a line of Belmont Red / B o n s m a r a / S e n e p o l composites.” The progressive attitude of the Belmont Red Association (BRAA) has allowed composites to be recorded and included in the BREEDPLAN analysis. Valinor, along with several other composite breeders, already receive EBVs for their composites against the Belmont Red base.

All joinings in the Valinor herd are by single sire mating AI and ET are also used for the introduction of Bonsmara and Senepol genetics. Heifers are joined at 13 to 16 months. If they preg test empty after their first joining, they are culled (along with empty cows). Over the last four years all heifers entering the breeding herd have tested in calf.

To date the majority of Valinor sale bulls (20-24 months) are sold through the BRAA Rockhampton sale held annually in September. In the 2002 sale, Valinor achieved 100% clearance - in light of the season, not a common occurrence! In 2003 Valinor will also be selling pure Senepol bulls at a Senepol vendors sale prior to the BRAA sale. Pure Bonsmara bulls will also be offered as an extension of the BRAA sale.

Records are currently kept on the herd recording program HerdMASTER (See page 14) for transmission to breed associations and BREEDPLAN. Along with pedigree details, the McCauley’s record most economically-important traits such as four weights (inc. birth), scanning (with IMF%) and scrotal size.

The McCauley’s have been active members of BREEDPLAN since 1985. Ian states that “BREEDPLAN is currently the only selection tool that I am aware of that provides genetic information on the majority of economically important traits. It is also valuable because it allows genetic comparisons across herds for those animals recorded with the BRAA. I would eventually hope that the BREEDPLAN analysis will allow me to compare genetics of all the breeds included in our program including those from overseas breed societies.”

The McCauley’s are also using gene markers to help with selection and marketing. Sale bulls and replacement females are now being tested for both the GeneSTAR Marbling and Tenderness genes. Ian comments that “initial GeneSTAR results are promising”.

Continued over page
The flight time test for cattle

The flight time test was developed by the CRC for Cattle and Beef Quality. It is a measurement of the time it takes an animal to pass through two light beams (1.7m to 2m apart) when leaving the crush through the head bale (see picture below). An animal that has a shorter flight time is considered to have poorer temperament to an animal with a longer flight time.

The CRC has also found that steers with a longer flight time (more docile whether from genetics or handling) will generally grow faster in feedlots to achieve higher final and carcase weight. Bulls genetically superior for flight time, will sire progeny with more tender meat (measured by shear force and MSA consumer taste panel testing).

BREEDPLAN members are encouraged to record the flight time of their weaners in preparation for the generation of an EBV which uses this information. Flight time recording units can be purchased from Ruddweigh Australia or, for our northern members, possibly borrowed from the CRC depending on their work load. Those wishing to borrow a CRC unit should contact me - Tropical Cattle Technology Services (07 4927 6066).

Ensuring desirable EBVs can be passed on

DNA fingerprinting is enabling some herds using multiple sire mating and tissue sampling of sires and progeny, to use the full BREEDPLAN potential of single sire identification. Most studs in Australia, particularly in the north, still rely heavily on single sire mating. The cost of sire breakdown is very significant in such situations. Therefore, it is important to do as much as possible to ensure herd sires are highly fertile and have the necessary reproductive capacity to pass on their genes.

Over recent years I have been involved in a large fertility study in northern Australia. This involved over 1,000 bulls, mainly Santa Gertrudis, Belmont Red and Brahman. Unfortunately no single trait was able to consistently predict a bull's fertility in multiple or single sire mated groups. A number of traits were demonstrated to collectively influence the calf-getting ability of a bull. These include scrotal circumference, semen quality (particularly percentage of normal spermatozoa), sheath depth, thickness of the umbilicus, mating behaviour (mounts and mounts plus serves). Many of these traits are part of a Bull Breeding Soundness Examination (BBSE) provided by the Australian Association of Cattle Veterinarians.

Please contact me if you wish to discuss the use of such a test in stud and commercial herds.

John Bertram
QDPI Goondiwindi
Ph: 07 4671 1388

“Valinor” - tropically adapted breeding.... continued

All yearlings in the Valinor breeding herd are assessed by visual inspection which includes structural soundness and type. This together with BREEDPLAN figures are then used to select breeding and sale bulls along with the replacement heifers. All cull calves that don’t meet the selection criteria are sold at 15 to 18 months of age. Ian comments that “selling the culls at an earlier age reduces the grazing pressure and allows more breeders to be run. The major objective for our breeder herd is to produce superior genetics for beef production not to produce actual beef.”

The McCauley’s not only provide their sale animals with a range of performance information but they also only buy in animals from other herds that are performance recording. Ian concluded by stating that he believes that “accurate fertility, growth and carcase performance records provide an invaluable guide to selection of seedstock genetics”

Further information on Valinor Grazing Company can be obtained from their website: www.valinor.com.au

Christian Duff

http://breedplan.une.edu.au
New faces

In the last few weeks ABRI has added five new faces to its BREEDPLAN team - four of them being "pick of the crop" young graduates and the fifth a seasoned international software consultant. They are excited about being part of the BREEDPLAN delivery team just as ABRI is proud of attracting such talent. Benita Davis has won a coveted University Medal for her Rural Science (Animal Sc. major) degree at UNE; Colin Rex has industry experience which he drew on to top the agribusiness course at Marcus Oldham; Malcolm King performed well in his recent agribusiness degree from Hawkesbury; Michael Connors has just graduated with Honours in Agricultural Science from the University of Sydney and has been part of Australia’s inter-collegiate carcase judging team which visited the USA and Curtis Morgan brings two decades of international software development experience to ABRI. To address the needs of an expanding international market we need high quality young innovative staff - and the results of our latest recruitment drive have been very satisfying.

BREEDPLAN’s new staff

Malcolm King comes from the Mid North Coast of NSW near Wingham. His family run an Angus stud along with commercial cattle. He is a graduate of the University of Western Sydney - Hawkesbury majoring in Agribusiness. Before coming to ABRI, Malcolm worked for an Agribusiness firm marketing machinery. He also worked as a heavy machinery farm hand at Sydney’s second largest rotary dairy.

His BREEDPLAN responsibilities are Gelbvieh, Angus (QLD, SA, TAS and WA), Droughtmaster and Belmont Reds. He is also the newly appointed General Manager for the Australian Gelbvieh Association.

"Wherever you are reading from, I hope this greeting finds you with an abundance of water, green grass, and fatter cattle in the paddocks. Let’s hope that the weather in 2003 is kinder to us all. I am very pleased to introduce myself as a recent addition to the BREEDPLAN team at ABRI. My responsibilities are Blonde D’ Aquitaine, Brangus, Limousin, Lowline, Romagnola, Salers, Simmental and Wagyu cattle breeds. An ardent Queenslander, I come from the Murgon area in the South Burnett district. I have had a strong association with beef cattle production from an early age, and a passion for cattle breeding which grew with the establishment of my family’s Charolais stud. I wish you all a successful year and I look forward to working with you to help you achieve your breeding goals.” - Benita Davis

Colin comes from the mixed farming area of Penola in South Australia, where the family farm was predominantly sheep orientated with a small Murray Grey stud and commercial herd. For the past 13 years he has worked on and more recently managed, several large stud properties. This has included some major Simmental, Angus, Limousin, Charolais and Hereford herds. While he has been heavily involved in the show arena, including high profile judging, all of the herds utilised BREEDPLAN as part of their breeding programme.

Colin has also had his own cattle enterprises including small Simmental and Angus studs. In 2002 he swapped the paddock for the classroom and returned to further his education at Marcus Oldham College completing the Diploma of Agribusiness. He will become the Executive Officer for the Red Angus, Red Poll and Brangus Societies.

Michael Connors joined the ABRI team in March. He will be filling a new position that will involve ensuring a smooth interface between BREEDPLAN and the new HerdMASTER product of Saltbush software. He will also be undertaking on-farm consultancies in breeding programs and promotion of seedstock.

Michael is an Honours graduate in Agricultural Science from the University of Sydney. In 2002, he was Chairman of the Angus Youth Development, an ING Rural Achiever and overall Champion of the Australian Inter-collegiate Meat Judging Competition. In February, 2003 Michael toured the USA as an member of the Australian Meat Judging team.

Curtis Morgan is joining ABRI’s software team for BREEDPLAN. He has an MBA from George Washington University and 24 years of international experience in software development - most of this being with the tools used by ABRI. His clients have included major corporations such as Boeing, Hoechst-Celanese, Network Information Systems, Electospace, State of Oklahoma and Trizetto Corp. His last assignment was in Chicago.

Curtis will add a great depth of experience to ABRI’s software team and enhance its ability to install and support BREEDPLAN in all corners of the globe.
BREEDPLAN provides genetic trend reports for individual herds and breed societies. I have selected a sample of current breed trends which I feel are generally favourable and which I am pleased to commend. I acknowledge that breeds/herds have differing priorities, so am not suggesting everyone would have these priorities.

(A Hereford/Poll Hereford example, with good progress in carcase EBVs, was featured in the 2002 edition of this newsletter).

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**Breed changing over time**

- **Limousin Docility**
  Docility is of course important in all breeds for safety and also the emerging links with meat quality (see p7 & 11).
  Compliments to Limousin breeders in their significant progress since EBVs became available 4 years ago. A full story in last year's BP News.

- **Angus Carcase**
  Although yield% and marbling (IMF%) are negatively correlated, breeders have been able to bend this by selecting bulls favourable in both. This is an important breakthrough particularly for people targeting marbling markets. EMA (at constant weight) is rising well and fat only declining slowly (as breeders cautious about female fertility links?). These trends are largely responsible for the $ Index gains shown on page 7.

- **Brahman Female Fertility**
  Days to calving is the BREEDPLAN female fertility trait. Lower figures indicate cows rejoining quickly and shorter calving intervals. Brahman progress is clearly seen in the orange line. Signs of progress are emerging in recent years for eye muscle area (EMA) and yield%, while holding surface fat steady.

- **Angus mature and birth weights**
  As with most British breeds, 600 day wt is continuing to rise, but breeders have done a very good job in holding birth wt down. There are also signs of mature cow wt not rising as quickly as 600d wt. The mature wt EBVs need careful interpretation however, as they do not at this stage take cow condition into account ie low mature wt can at times have a component from cows with low condition at weaning.
Internet Solutions

Searching breed databases. BREEDPLAN's Internet Solutions Technology for accessing breed databases continues to break new barriers. From a conservative start in 2000 with 10,000 hits per month, use has skyrocketed to 700,000 hits this January. Options have been continually expanding, eg the graphic display option pictured left, has been progressively installed by Societies since mid-2002. (Click on the bar graph icon beside the normal EBV listing to display these graphs).

Some exciting new features were added this year including the option to customise your reports. Eg: just display and print fields and/or EBVs of interest. An example is shown on page 5, where the New Zealand sale catalogue graph shows only 7 EBVs. Passwords, administered by your Society, are required.

Murray Scholz and Christopher de Crespigny, of ABRI

Corporate governance

The policies for the commercialisation of BREEDPLAN International are developed by a sub-committee of ABRI's Board under Chairmanship of well-known stud and commercial cattleman, Anthony Coates. These policies are put up to the ABRI's Board for adoption. The Board contains a mix of business, scientific and cattle breeding expertise.

From left to right is members are: Arthur Rickards (Managing Director), Peter Speers, Jock Laurie, Jan Skuthorpe (Company Secretary), Gordon French, Ian Locke, Anthony Coates, Mark Bice, Edward Wright (Chairman). Absent, Professor Stuart Barker, Geneticist. Six peak industry Councils such as the Cattle Council of Australia and Beef Improvement Association of Australia have representatives on the Board. Through this mechanism, ABRI's Board truly represents the grass roots interests of the cattle industry.