The catalyst for the global evaluation will be the international Hereford genetic linkage program. This is a donor program between Meat and Livestock Australia (MLA - Australia’s peak body for red meat industries) and the Australian Hereford and Poll Hereford societies. The results of the linkage project and the development of global evaluation options will be reported to the conference during a keynote session presented by Dr Hans Graser, David Johnston and Kath Donoghue from the Animal Genetics and Breeding Unit (AGBU - the genetics Research and Development group in Armidale which develops the international BREEDPLAN genetic evaluation programs).

The linkage project has been established using reciprocal matings of 8 international sires (four Australian, two US and two Canadian) across Australia, United States and Canada, with secondary links in the UK and Ireland. Progeny from the link sires are being fully evaluated for growth, feed efficiency and carcase traits, with sample groups on display at the conference. The Australian progeny have birth and weaning data on file and the steers commence a 90-day feedlot finishing and feed efficiency test in November, 2003. The North American progeny are approaching weaning and the UK/Irish progeny are yearlings (Nov 2003).

Given that the performance data from Hereford cattle in Australia and New Zealand is combined in a BREEDPLAN evaluation, and that strong genetic links exist between the Hereford populations in North and South America, global linkage will be established by the project.

The logistics of proceeding to a global evaluation have been simplified because all the major Hereford populations around the world will be using BREEDPLAN technology. A further bonus of the project will be the validation of EBVs in the field. The birth/weaning results already in from the linkage program demonstrate the accuracy of sire EBVs in predicting progeny performance for those traits.

Bob Freer
Project Manager and consultant to Australian Hereford and Poll Hereford societies

http://breedplan.une.edu.au
Editor's notes

This annual newsletter normally comes out in Autumn, but we are earlier this year to include information on the World Hereford Congress (see P5). This is from March 26th - 29th, at Armidale university, which of course also houses BREEDPLAN HQ, so there will be significant sessions on performance recording.

The past year seems unfortunately to have been very drought-oriented for a large part of our clientele. There are still areas short of feed and/or water, and of course even where feed is now OK, the financial drain lingers. I've heard amazing drought survival stories and community assistance efforts and will just share one: A semi-retired cattle consultant, now living on the NSW coast wanted to do something to help. He organised dinners and various other functions and raised a substantial sum. By phoning a friend in western NSW, he was given contacts for some young families who "were significant contributors to the industry and their district and really in need". They were, I am sure very grateful to receive truckloads of fodder.

On the positive side, droughts always make us review strategies and I know of people forced to early wean, who now will do so more often in average seasons. Drought also challenges fertility, so we have several stories in this issue on BREEDPLAN fertility-related matters. A new development here is that plans are in hand to include AI data in calculating the female fertility EBV, days to calving (DC). To obtain accurate EBVs, with or without AI, requires more comprehensive recording than is currently done by many herds however (see page 6).

MENTORING? Efforts continue to find new ways of improving BREEDPLAN use by commercial and stud breeders. At one 'buzz group' I attended to plan new initiatives, a suggestion was made that mentors may help some new members. If you are an experienced BREEDPLAN member prepared to do some mentoring OR have recently joined and would appreciate a mentor - please contact me and I will assist the connections.

Best wishes for 2004 - a wetter one!
Brian Sundstrom
brian.sundstrom@agric.nsw.gov.au

Angus boost in Argentina

The Bustingorri group of Angus breeders in Argentina have had another very successful year. There are now 20 herds in BREEDPLAN, up by 25%. Commercial beef producers are seeking out and paying good money for bulls with BREEDPLAN EBVs.

As in South Africa, the time has come to engage a local consultant to handle the many issues involved in market development, not least of which is getting technical and marketing information available in Spanish in hard copy and on the Web. Maria Calafé is an Argentinian Vet who has been closely involved with the BREEDPLAN activities of the Bustingorri group. She was sponsored into Australia by ABRI for three weeks last July/August where she was given training in BREEDPLAN and herdMASTER and visited a lot of BREEDPLAN herds - particularly as they were having ultrasound scanning done by Roger Evans.

Maria is now a BREEDPLAN guru. Her tasks in the next 12 months are many and varied and include compiling in Spanish a number of items including Breed Notes, breeder instructions, BREEDPLAN report headings, BREEDPLAN promotion and herdMASTER promotion. Maria will also provide support so that breeders understand how to use BREEDPLAN effectively. She will be focussing on data quality.

We have set Maria an ambitious goal. She is aiming to increase BREEDPLAN usage in the Bustingorri group by 50% in the next twelve months. With some very large herds showing interest, this is entirely feasible. Watch this space!

Maria Calafé is expert in BREEDPLAN and herdMASTER.

Arthur Rickards

http://breedplan.une.edu.au
When you talk about North American (USA plus Canada) Herefords, the statistics are like telephone numbers - over 23 million pedigree animals in the combined databases, 7.6M weights and 4.6M calving ease scores. It is gratifying that the Associations involved have put their collective weight behind BREEDPLAN International.

Pedigree Register
The pedigree database of the American Hereford Association (AHA) contains over 21 million animal records. This was formed by merging data from the American Polled Hereford Association with that of AHA. Unfortunately, initial attempts to do this by two USA-based companies were only partially successful. That is when ABRI was engaged.

Pedigree Register
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Performance recording
The AHA has a very strong performance recording program with weaning weights captured on around 68,000 calves annually. Over 2400 herds are involved and these herds run 80% of all the cows on the AHA inventory. An across-herd genetic evaluation is run twice per year which also includes the performance data from Canada. The combined performance database is five times larger than that of any Australasian genetic evaluation conducted by ABRI. Historically, this work had been performed by the University of Georgia. However, a switch was made to BREEDPLAN in order to gain the advantages of a fully integrated breed register which provides AHA with a high level of control over all of its computing.

Internet Solutions
The AHA was an early user of ABRI’s Internet Solutions - for animal member enquiries and sale catalogues. This service regularly receives over 100,000 hits per month - by far the highest of any beef cattle association using ABRI’s software. This basic service has now been extended to include internet registrations, inventory updates, collection of performance data and on-farm printing of AHA generated reports. Those members who elect to use the internet as their data submission method are able to use pre-built worksheets and batches. These worksheets already contain those animals which would have been pre-printed for them in AHA’s paper-based recording system. In addition, these members receive faster turnaround of their data, as they are automatically notified via email whenever new worksheets are available for their use, or when updated performance reports have been generated for them to print (also see p18).

herdMASTER
A strategic focus of AHA is to move towards a paperless recording system. Consistent with this objective, ABRI’s Saltbush Division developed herdMASTER using the latest tools from Microsoft. The new software was trialled extensively by Vern Raush of Rausch Hereford Farms whose on-farm database has records on in excess of 20,000 cattle.

Vern is enthusiastic about the new product. Over 100 herdMASTER systems have been purchased by AHA members in the last two years. A web-based version of herdMASTER will be available in 2004 and actively marketed to the small to medium-sized studs.

Summary
The AHA is one of the largest beef cattle associations in the world. After working with ABRI for four years, its services to breeders have been transformed into world’s best practice. The advanced data processing system has empowered the AHA to develop aggressive plans for increasing the market share of Hereford genetics in North America.

Arthur Rickards
Managing Director, ABRI

http://breedplan.une.edu.au

BREEDPLAN in North America
The Hereford Associations of both Argentina and Uruguay have been heavily involved in the introduction of BREEDPLAN technology over the last year. This follows a visit to Armidale in March, 2002 by Dr Fernando Alfonso of the Uruguayan Society and Maximo Ayerza of the Hereford Association in Argentina. Both groups had previously pooled data for a genetic evaluation conducted by the University of Georgia (UGA). On receiving a presentation on BREEDPLAN, the representatives of both countries were satisfied that this was the right technology for the Hereford breed in South America.

Data sets from both Associations were sent to BREEDPLAN’s Dr Brad Crook early in 2003. A South American database was established and ABRI converted the data from both Associations into the BREEDPLAN format. Brad then undertook a number of across-country genetic evaluations and tabulated the results for on site discussions.

In late April 2003, Brad made the long journey to Buenos Aires (BA), where he was met by Juan Bullo and Dr. Daniel Musi on behalf of the Argentine Association and Dr Daniel de Mattos, the then technical advisor to the Hereford Society in Uruguay.

During the next week Brad had a strenuous but rewarding program in both Argentina and Uruguay. It included a technical explanation of the BREEDPLAN technology, comparisons of the BREEDPLAN results with those from UGA, an overview of BREEDPLAN services such as the breed register and herd management software, discussions of the steps in a systematic approach to national breed improvement, visits to a number of leading Hereford ranches and a visit to the INIA beef cattle research facility in Uruguay. This was a most valuable program that helped to define how BREEDPLAN could be best used to benefit Hereford cattle in the countries visited. On his return, Brad did some fine tuning of the BREEDPLAN parameters and completed the first production evaluation of Argentine/Uruguayan Hereford data. This is the first time that a single multi-trait evaluation model has been used on all weight performance data from the two countries. The analysis included an impressive total of over 78,000 birth weights, 200,000 weaning weights and 237,000 post-weaning weights, producing BREEDPLAN Estimated Progeny Differences (EPDs) and accuracies on 8,000 sires and 108,000 dams. The Argentine Association released results to its breeders. The Society of Uruguay plans to participate fully in 2004 with its latest data (including over 10,000 ultrasound scan and scrotal size records) in a full multi-trait evaluation, releasing BREEDPLAN results to breeders.

The ABRI is developing a long-term strategy for implementing a wide range of BREEDPLAN and related technologies in both Uruguay and Argentina. This is very exciting news for the Hereford breed in South America which will be able to link with innovative BREEDPLAN developments elsewhere in the world and with the North American Hereford associations in particular.

Arthur Rickards
Gaining market share in Southern Africa

Since the last newsletter we are pleased to report that the South African Braford and Limousin societies have recently joined the BREEDPLAN International system. The six South African societies now on BREEDPLAN represent 46% of the total beef membership in this country. The Namibian Stud Breeders Association representing 18 breed societies has had their new system installed, on time and according to contract. Marcus O’Sullivan did a huge job and the NSBA staff is now handling all registration and performance functions. Thanks to the ABRI team for all their hard work.

Dr Brad Crook recently spent 2 weeks in South Africa and Namibia educating society staff on the finer details of the BREEDPLAN performance system. Brad stressed that the societies are now in complete control of all registration, performance and evaluation functions. The societies are very exited about the opportunity to give an improved service to their members. Brad also used the opportunity to visit a number of our breeders.

The herdMASTER program has successfully been introduced into the market and we now provide full-time herdMASTER support to our clients. Clients have responded positively to the program and with strong support from Saltbush we expect herdMASTER to become the leading herd management package in the Southern African market.

BREEDPLAN in Southern Africa has also combined forces with the largest Agricultural Journal (an Afrikaans weekly called the Landbouweekblad) to host the Landbouweekblad/BREEDPLAN bull, cow group and bull of the year competition. We have managed to convince one of our largest retailers, called Pick n Pay, to become the main sponsor of the competition with R1 M ($200 000) over a five year period (Incidentally, Pick n Pay recently acquired much of the Franklins chain in Australia). We recently had our first prize-giving event and the seedstock producer of the year winner is Brian Angus (from the Angus society) who has won a trip to Australia. Thanks to Mike Stephens from the Australian BIA who also helped with the competition.

There are many similarities between our countries in terms of production systems and conditions. It thus makes sense for our societies to work together to strengthen genetic links across countries so that we can ultimately combine our analyses. Finally, we South Africans are passionate about our rugby union. Whilst this article is being written, the rugby world cup is in full swing. The BREEDPLAN system is used in many of the countries participating in this world cup. I trust that you have also enjoyed the games and the best team ultimately won.

Michael Bradfield

The Australian Hereford Society and the Australian Poll Hereford Society will be hosting

14th world hereford conference

DATE: Friday March 26 - Monday March 29, 2004
INFO - WEB: www.14thwhc.org
INFO - Phone: 02 6772 9066

http://breedplan.une.edu.au
New Zealand fertility work

Pregnancy rate in beef cattle has a low heritability and hence is difficult to improve by selection within purebreds. It is however of such economic importance, that most serious breeding programs try to put some pressure on the trait. In BREEDPLAN this is done by using a combination of the scrotal size and ‘days to calving’ EBVs. Days to Calving is the ‘female fertility’ EBV calculated from mating and calving records and male relatives’ scrotal readings.

It is now well accepted that female traits such as age at puberty and subsequent pregnancy rate, are genetically correlated to the scrotal measurements of male relatives. Much of this knowledge was developed in the 1980s and ’90s and one of the groundbreaking experiments in this area has been overseen by Dr Chris Morris and colleagues of Ruakura Research Station in New Zealand. They set up an Angus selection line experiment in 1984/85. This has a ‘HIGH’ line selected on early puberty of heifers (age at first behavioural oestrus) and male scrotal records. There is a ‘LOW’ line, selected for late first oestrus and a CONTROL line in the middle.

After nearly 20 years, the HIGH and LOW lines now differ by 69 days (18%) in age at puberty in heifers, 11% in scrotal circumference and over 5% in cow pregnancy rate; the HIGH line has the earlier puberty, larger scrotal circumference and higher pregnancy rate. This physically confirms that female fertility has a genetic component and progress can be made by selecting on a combination of male and female traits. It also shows the magnitude of change when heavy (sole in this case) selection pressure is put on these traits in a breed which is well regarded for its fertility. The heritabilities and correlations calculated from these herds have been used, with Australian and other experimental results, in developing the BREEDPLAN fertility EBVs.

As mentioned above, the herds were selected only on fertility. This has, however, led to a small (4%) increase in Yearling weight for the HIGH line and also slightly lower mature cow weight.

I was pleased to hear recently that these NZ fertility lines are moving into a new and important phase. Now that they have diverged sufficiently, they are assisting a search for the genes explaining the reproductive differences. The research group is currently in the fourth and final year of a project to breed 400 head which are crosses from the lines. DNA markers are being recorded and any associated with reproductive differences will be studied more closely.

Brian Sundstrom

While you are thinking of fertility matters: You may be interested to hear that BREEDPLAN will introduce in 2004, the use of AI data in the calculation of female fertility EBVs (Days to Calving). Currently only natural mating is used. As with all fertility recording, it will be important for studs to carefully note like treated AI groups and to record females culled infertile etc. The capturing of first calf heifer fertility data is particularly important. This is unfortunately missed by many breeders at present.

NZ Simmental and Charolais move to NZPBB

The NZ Charolais Society, based in Christchurch, made a decision some time ago to use Colorado State University (CSU) for its genetic evaluation services. Many of the leading Charolais breeders in New Zealand considered the EBVs from CSU to be inferior to those from BREEDPLAN and voted with their feet. They have now established Charolais Breeders New Zealand Inc. (CBNZI) and based their administration at NZ Performance Beef Breeders in Feilding in order to use BREEDPLAN services. The data from CBNZI is combined with that of the Charolais Society of Australia in an Australasian GROUP BREEDPLAN. Two runs are expected in 2004.

Christchurch has been the administrative home of Simmental NZ for almost 40 years. However, the Simmental NZ office is moving to NZ Performance Beef Breeders. This landmark decision will add considerable strength to the NZPBB operation. It also means that Simmental NZ will have access to a diverse and skilled administrative resource at NZPBB to help take the breed to new heights in the NZ market. It is estimated that 95% of the beef pedigree and performance recording in New Zealand is now being undertaken out of the offices of NZPBB. This move is consistent with worldwide trends for breed societies to rationalise the use of resources to remain competitive. In fact, NZPBB has been so successful it is setting an example to the rest of the world. This is a great credit to the diplomacy and skill of NZPBB Manager, Murray Meads.
Beef breeding herds in NZ are under increasing pressure from other land-based enterprises - forestry, sheep, beef finishing and dairying, to name a few. Breeding cows are seen to have lower returns. While there is agreement that cows help maintain pasture quality and reduce parasitic loading by acting as mower, baler, hayshed and self-feeding device, there is no hard data to financially evaluate these 'hidden benefits'. Breeding enterprises are therefore disadvantaged in gross margin analyses, and continued effort is needed to improve their efficiency.

In beef production systems, researchers estimate 65% - 85% of the total feed is consumed by breeding cows and half of this is for maintenance. The farmer receives no return on this very significant maintenance feed cost. It is a fixed cost. Therefore reducing this overhead will have significant impact on profitability. More efficient conversion of feed to product is an issue for calf producers and finishers. Finishing animals out of parents selected for feed efficiency would generate greater profit per tonne of dry matter consumed.

There are a number of ways of expressing and measuring feed efficiency in beef cattle. Recent Australian, USA and UK research has concentrated on Net Feed Intake (NFI) as an efficiency measure. (Australian BREEDPLAN has taken this through to having NFI EBVs). NFI is the amount of feed an animal eats, above or below that expected for its weight and growth rate. For a given liveweight gain, some animals will eat more than expected and some less - these latter ones are more efficient in terms of NFI. With NFI, more efficient cattle can be selected within any weight range.

Associate Professor Steve Morris at Massey University is currently conducting a Meat NZ funded trial, investigating NFI under pastoral conditions. There are several objectives:

- To evaluate Australian sires with known NFI EBVs, to see if their EBVs are valid under NZ pastoral conditions.
- To devise systems of testing for NFI, if these EBVs are proven to be valid.
- In tandem with the NFI trial, to validate 600-Day Wt and Milk EBVs. By running the trial on four properties, the final objective will also be able to include an estimate of the relative impact on slaughter weight of Sire EBV and pre-weaning environments.

The project is generating calves from Angus cows using six lines of Angus bulls (four bulls per line). These lines are:

- High and low 600-Day Weight EBVs.
- High and low Milk EBVs.
- High and low NFI EBVs.

Because of delays in importing semen for the NFI sires, calves generated from these bulls arrived at Massey a year later than calves from the growth and maternal lines.

The calves born on the four breeding properties were weighed and tagged at birth. They arrived at Massey after weaning and grazing feed intakes were measured using slow release n-Alkane capsules. The fast growing group of steers is being slaughtered at approx two years of age, and the slow group at two and a half years (See figure 1). Heifers were mated to calve as two year olds and their milk production has been measured using the weigh-nurse-weigh system.

Preliminary results from year one born calves (growth and maternal lines only) to date show:

- There is little difference between the growth and milk lines with regard to the onset of puberty.
- Raw data indicates that there is a 24kg difference between the high and low EBV growth lines for the fast growing group and a 12kg difference between the high and the low EBV growth lines for the slow growing group. Most of this difference was there at weaning.
- The high and low milk lines were similar for growth but were behind both the high and the low growth lines.
- There was a 25kg precalving difference in weight between the high and low growth heifer lines, no difference in weight between the high and the low milk heifer lines, which were in turn lighter than both the high and low growth heifers .

Russell Priest

Feed Intake trial

Russell Priest

Meat and Wool Innovation Beef Genetics Co-ordinator

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Russell Priest

Figure 1 - Target liveweight profiles

http://breedplan.une.edu.au
Fine tuning cattle to the environment

Following is an unedited letter received from Jack Kennedy (Bumper Droughtmaster Stud Mitchell, QLD), describing the practical and successful application of BREEDPLAN in Northern Australia.

"BREEDPLAN figures on breeders have divulged a few secrets enabling the Bumper Droughtmaster herd at "Rockybank", Mitchell to be fine tuned to the environment.

The environment at Rockybank is considered to be suitable only for breeding, with a stocking rate of 1 cow to 45 acres in phosphorous deficient country. In this environment it is a challenge to get females to calve at 2 years of age and every subsequent year thereafter.

These hardships have led to some interesting discoveries by analysing the BREEDPLAN figures of the successful cattle.

In such an environment, females with high EBVs for 400-day growth (the period of joining) have trouble conceiving because they have not satisfied their requirement for growth from the nutrition available. These animals will use all their energy to grow and not have the energy to conceive. This problem is compounded if these heifers also have low fat cover EBVs.

The growth and fat factors of these heifers will override any effect of high EBVs for Scrotal Size their sire may have. That is to say that it does not matter how strong and well developed the reproductive tract of the heifers is, if the growth rate and fat are not matched to the environment then fertility problems will surface. The good news is that due to the high heritability of these traits (400-day growth and fat EBVs) the problem can be rectified quickly once the problem is recognised.

Having moderate 400-day growth and higher fat EBVs also gives your herd a window to finish for the local trade. The volume of fat is also important in the Bumper breeding herd. Late in the dry season, cows (and 1st calf heifers) must live on their fat reserves and often calve at this time. Cows that do not have adequate fat reserves will not go in calf the next year. The use of Rump, Rib, and IMF fat EBVs can maximise the volume of fat a female can carry without compromising (in some cases enhancing) market specifications. Evenness of fat cover is also very important to maximise the volume of fat a female can carry.

BREEDPLAN EBVs can be a very useful tool to streamline your genetics to your environment. A combination of EBVs can be a better guide to fertility and hence profitability. It is hoped this article may save some cattle breeders from going up a dry gully, and demonstrate the practical use of BREEDPLAN figures."

Jack Kennedy
Bumper Droughtmaster Stud

The major point raised by Jack is that successful producers select breeding cattle that are suited to their environment and able to produce progeny that meet the specifications of the selected target market.

Other Northern cattle producers have mentioned the importance of milk production and mature cow weight in the environmental adaptation of their breeders. Producers running breeders in less favourable environments generally find they are more successful breeders than those with moderate milk production and moderate mature cow weight.

From the above points it should be noted that BREEDPLAN is not just a tool used to increase the 600-day weight of progeny. It is also a tool that allows cattle breeders to fine-tune genetics for economically important traits in their breeding cattle (fat, milk, mature cow weight etc) so they are able to meet their breeding objectives.

Christian Duff,
Technical Officer,
Tropical Beef Technology Services
Phone: 07 4927 6066

http://breedplan.une.edu.au
The Australian Brahman Breeders Association (ABBA), as with other cattle societies, has opened up their primary (herdbook, registered) and secondary (calf recorded, commercial) registers via a web enquiry database. This powerful and easy to use search facility allows information to be accessed under four titles. These being:

1. Animal Enquiries - Any animal recorded on the ABBA database can be accessed under this search title. The search criteria includes animal name, stud book number, calving year, horned status, location etc.

2. EBV Enquiries - This search is basically the same as the animal enquiry search facility but it includes the added benefit of allowing you to search for animals that fit within a range of EBVs that suits your production system and breeding program.

3. Member Enquiries - ABBA member details can be accessed through this facility. The search criterion includes surname, stud prefix, stud number, postcode, zone etc. Members that fit the selected criteria will be displayed with their contact details.

4. Sale / Semen Catalogues - The details of many ABBA sales are included under this title throughout the year. The sale details are normally listed here well before they are available in hard copy form. This allows those interested to view pedigree and performance (EBVs) information on sale animals well before sale day.

The growth in use of the web enquiry database has been outstanding. In the 2002 - 2003, the ABBA web enquiry database was visited by 5263 unique computers with 211,097 transactions recorded. This is a 160% increase in pages displayed from the ABBA database in just three years (See figure 1).

The annual Rockhampton Brahman Week Sale (RBWS) has been regularly displayed on the online sale catalogue section of the web database facility. In the period the 2003 RBWS was posted on the online sale catalogue section it alone was visited by 685 unique users with 35008 pages of information viewed. To put this in perspective it represents 20 pages viewed by each unique user or 778 pages viewed per day leading up to the sale.

Commercial and stud producers alike are encouraged to use the web database search facility of their associated breed to help in their selection decisions. They can be accessed under the search facility title on the BREEDPLAN website (http://breedplan.une.edu.au)

For further information contact the relevant breed society, ABRI or myself.

Christian Duff

Figure 1 - Use on ABBA web enquiry database.
Towards maternal multibreed EBVs

From 1997 to 2002 the MLA* funded, Southern Multibreed experiment, was conducted at Hamilton Victoria, (pictured below) and Struan (SA) research centres. There were also many cooperating commercial properties. This work provided data for Australia’s first multibreed adjustment table in early 2003. This table allows the birth, growth and carcase wt EBVs of Poll Hereford/Hereford, Angus, Limousin and Simmental to be put on the one base. (See BREEDPLAN News 2003 or http://breedplan.une.edu.au).

Since then, industry organisations have sought funding from MLA to carry on the F1 females to generate data for maternal EBVs. MLA has responded to this and I am pleased to report this work is underway. Over 300 F1 females from P/Hereford and Angus cows by Angus P/Hereford, Limousin and Simmental sires have been retained. These have been joined by AI to Shorthorn, Charolais and Limousin sires with high accuracy EBVs and links to other projects such CRC work (page 11). As well as collecting the maternal data, this should enable Shorthorn and Charolais to be added to the Multibreed adjustment table.

Brian Sundstrom

Final report - Belmont crossbreeding program

The Final Report on the “Belmont” Crossbreeding Project, which analysed performance of a range of breeds and crosses under low to moderate sub tropical environmental and parasite stress, has now been completed.

From 1992 -97, the project generated 2,600 animals from 30 breed groups and their crosses, and measured a range of production and adaptation traits. The project estimated the optimal breed composition for a range of production systems and breeding objectives.

This confirmed industry expectations regarding needed higher content of adapted (Bos indicus) genetics at higher stress levels. The best way to achieve this depends on what traits are important, and what parasites are present.

Summary and full reports are available from Kishore Prayaga at the Tropical Beef Centre, Rockhampton.
kishore.prayaga@csiro.au

Rob Banks
Genetics Research Co-ordinator, MLA

Extending the value of genetic technologies

Recently MLA sponsored a National Beef Genetics Extension Team to recommend ways of speeding up genetic improvement in the Australian beef industry. MLA is concerned that although we have world class genetic technologies, genetic progress in herds is not fast enough.

Earlier this year the Management Committee of the Extension Team - Don Nicol, Bob Freer and myself - delivered to MLA a ‘Foresight Plan’ suggesting initiatives to fast-track genetics extension. In the next year you will see initiatives from this plan, including a series of Beef Genetics Expos. Contact me for times and locations. One constraint to adoption of genetic technologies we identified, was the need for better ‘proof’ that they deliver more profit to breeders and members of the supply chain.

A ‘Proof of Profit’ workshop was therefore conducted, where breeders, researchers and extension people presented information on their ‘pet’ genetic technologies, highlighting the profits and proof they work. Technologies ranged from EBVs and indexes to crossbreeding, gene markers and TGRM (Total Genetics Resource Management). The workshop concluded that for technologies such as EBVs and crossbreeding there is a wealth of information demonstrating their effectiveness, but this has not been well publicised. Participants therefore strongly urged continuous demonstrations of EBVs etc working.

The Proof of Profit workshop was the start of a process to develop material to use in promotion. We are also looking for ‘champions’ prepared to say the technologies work. If you or a bull buying client have a good news story, we would love to hear from you. Genetics affects the whole supply chain so if you know a lotfeeder or processor prepared to speak out, we would be keen to talk to them - we need a pull through effect from the processing end.

In the next issues of BREEDPLAN News we will publish outputs from this project - stories demonstrating that genetics work. If you have any comments or would like to volunteer a ‘champion’ or just good story please let me know. wupton@pobox.une.edu.au or write to AGBU, UNE, Armidale 2351.

Wayne Upton AGBU

*MLA co-funding the enhancement of cattle breeding technology services.

Towards maternal multibreed EBVs

From 1997 to 2002 the MLA* funded, Southern Multibreed experiment, was conducted at Hamilton Victoria, (pictured below) and Struan (SA) research centres. There were also many cooperating commercial properties. This work provided data for Australia’s first multibreed adjustment table in early 2003. This table allows the birth, growth and carcase wt EBVs of Poll Hereford/Hereford, Angus, Limousin and Simmental to be put on the one base. (See BREEDPLAN News 2003 or http://breedplan.une.edu.au).

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Brian Sundstrom

Final report - Belmont crossbreeding program

The Final Report on the “Belmont” Crossbreeding Project, which analysed performance of a range of breeds and crosses under low to moderate sub tropical environmental and parasite stress, has now been completed.

From 1992 -97, the project generated 2,600 animals from 30 breed groups and their crosses, and measured a range of production and adaptation traits. The project estimated the optimal breed composition for a range of production systems and breeding objectives.

This confirmed industry expectations regarding needed higher content of adapted (Bos indicus) genetics at higher stress levels. The best way to achieve this depends on what traits are important, and what parasites are present.

Summary and full reports are available from Kishore Prayaga at the Tropical Beef Centre, Rockhampton.
kishore.prayaga@csiro.au

Rob Banks
Genetics Research Co-ordinator, MLA

Extending the value of genetic technologies

Recently MLA sponsored a National Beef Genetics Extension Team to recommend ways of speeding up genetic improvement in the Australian beef industry. MLA is concerned that although we have world class genetic technologies, genetic progress in herds is not fast enough.

Earlier this year the Management Committee of the Extension Team - Don Nicol, Bob Freer and myself - delivered to MLA a ‘Foresight Plan’ suggesting initiatives to fast-track genetics extension. In the next year you will see initiatives from this plan, including a series of Beef Genetics Expos. Contact me for times and locations. One constraint to adoption of genetic technologies we identified, was the need for better ‘proof’ that they deliver more profit to breeders and members of the supply chain.

A ‘Proof of Profit’ workshop was therefore conducted, where breeders, researchers and extension people presented information on their ‘pet’ genetic technologies, highlighting the profits and proof they work. Technologies ranged from EBVs and indexes to crossbreeding, gene markers and TGRM (Total Genetics Resource Management). The workshop concluded that for technologies such as EBVs and crossbreeding there is a wealth of information demonstrating their effectiveness, but this has not been well publicised. Participants therefore strongly urged continuous demonstrations of EBVs etc working.

The Proof of Profit workshop was the start of a process to develop material to use in promotion. We are also looking for ‘champions’ prepared to say the technologies work. If you or a bull buying client have a good news story, we would love to hear from you. Genetics affects the whole supply chain so if you know a lotfeeder or processor prepared to speak out, we would be keen to talk to them - we need a pull through effect from the processing end.

In the next issues of BREEDPLAN News we will publish outputs from this project - stories demonstrating that genetics work. If you have any comments or would like to volunteer a ‘champion’ or just good story please let me know. wupton@pobox.une.edu.au or write to AGBU, UNE, Armidale 2351.

Wayne Upton AGBU

*MLA co-funding the enhancement of cattle breeding technology services.
A 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 carcass type) to be grown at different rates, and finished for various markets.

The NSW site is “Bringagee” station (Ag Reserves Australia), near Griffith.

Groups of 500-700 Hereford cows have been involved at each of 5 matings for Spring and Autumn calving groups, to the following Sire types.

Angus - High Yield % EBVs (Ay)
Angus - High IMF % EBVs (Am)
Angus - High Yield % and IMF % EBVs (Aym)
Wagyu Black and Wagyu Red
Charolais and Limousin

After weaning, the steer progeny either follow High or Low growth paths to reach 400kg av feedlot entry (Cargill’s Wagga) at either 13 or 19 months of age. In spring 2003, they completed 4 of the 5 weanings and the second slaughter. The drought has forced some of the cattle to be dispersed during 2003, many to Grafton Research Station.

The last issue of this newsletter gave some birth and weaning data. This time we look at some early carcass results (table 1) for the Angus breed groups in NSW. For the European and Wagyu crosses, the numbers are a little low for publication at this stage and only general comments are made. The results have not had final adjustments and are provided here to show some trends.

The first pleasing trend is that the Angus sire carcass EBVs for yield% and marbling, seem to be predicting outcomes well (table 1). The European crosses are showing expected higher yield% and lower marbling trends. The Wagyu crosses, perhaps a little surprisingly to some, have yield%, marbling and eating quality scores similar to the Angus crosses. This seems to endorse industry experience that short fed, first cross Wagyu X lower marbling breeds, do not display high marbling.

As these projects progress, further information can be obtained from the project leaders indicated: Struan*, South Australia, mick.deland@saugov.sa.gov.au, Hamilton* Victoria, john.graham@agric.vic.gov.au and Griffith, NSW, john.wilkins@agric.nsw.gov.au.

* Also project leaders for multibreed work, Pg 10.

**CRC** - Co-operative Research Centre for the cattle and beef industries. A research grouping of NSW Agriculture, CSIRO, QDPI, University of New England.

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**In brief - other CRC research**

- The Pestivirus vaccine developed in early CRC research by NSW Agriculture, has been commercialised by CSL and was launched at CRC HQ in Sept ’03. There are applications in breeding herds and feedlots.

- Flighty heifers harder to AI. CRC research on flight time and its effect on meat quality and steer performance, has been in previous editions of this newsletter. A recent correlation with flight time reported by Northern CRC research team, is that fast flight time heifers display oestrus less clearly for AI.

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**Table 1 - Raw averages for progeny of three angus sire lines, from Hereford cows.**

<table>
<thead>
<tr>
<th>Angus sire line</th>
<th>AY</th>
<th>AYM</th>
<th>AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield %</td>
<td>67.8</td>
<td>67.5</td>
<td>67.0</td>
</tr>
<tr>
<td>IMF%</td>
<td>4.1</td>
<td>5.1</td>
<td>5.8</td>
</tr>
<tr>
<td>MSA Eating score</td>
<td>62</td>
<td>68</td>
<td>69</td>
</tr>
</tbody>
</table>

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http://breedplan.une.edu.au
IGF-1 blood test improves NFI EBVs

In the last BREEDPLAN News we reported on the first results from a field test of Insulin-like Growth factor I (known as PrimeGRO™ IGF-I) in BREEDPLAN herds. Blood samples from more than 7,000 calves where collected at or around weaning, with some older animals also included. We have now analysed all our data, which included the ultrasound scan data on these animals. Unfortunately we did not get all animals scanned due to the severe drought conditions on many farms. However, by combining the information from other relatives recorded in previous years we could complete the analysis and can now report the results.

IGF-I in calves at weaning is moderately heritable, our estimate was 0.39 ± 0.05. In yearling the heritability was greatly reduced (0.11 ± 0.06). We therefore recommend taking IGF-I blood samples at or before weaning to give the best genetic responses. Our analysis also showed that selection against blood serum IGF-I concentration will reduce all measurements of fat (including marbling) and increase growth rate slightly. However, as these genetic correlations are not particularly strong, we found plenty of animals which went against the overall trend.

The most encouraging result of all was the high genetic correlation between IGF-I and Net Feed Intake (NFI). This correlation was estimated as 0.63, but still with a large standard error of ±0.27. Selection against blood serum IGF-I at weaning will result in progeny, which for the same weight and gain on a feedlot ration, will eat less than expected. ie: they are more efficient.

From the estimates of the relationships between IGF-I and NFI we predict that selecting the bottom 35% of young bulls on IGF-I to become sires will result in progeny which eat about 0.07 kg per day less in a feedlot trial (10 MJ per kg feed) compared to the average bull’s progeny. This benefit is a little more than half of what you get if you actually did a feed intake test on all these young bulls for NFI, but at a fraction of the cost. Using information on all relatives, as common in BREEDPLAN, will increase the benefits further. Of course, we don’t advocate single trait selection, however, our results are a clear indication that IGF-I is a good indicator trait for NFI and is much cheaper to record than NFI directly. AGBU will now process the accumulated data and transfer it to the BREEDPLAN database. We will also undertake the necessary work to have IGF-I and NFI records included in the multi-trait BREEDPLAN genetic evaluation system by mid 2004. With additional data we will then be able to investigate the links between IGF-I and the female reproduction trait ‘days to calving’ and from additional CRC data the genetic link with carcase and meat quality traits.

As there is an indication that NFI is slightly negatively correlated with meat tenderness this might be true for IGF-I too. It is important to know this. Data currently collected in the Beef CRC-II will soon provide us with the genetic parameters for tropically adapted breeds.

Hans Graser
Director
Animal Genetics and Breeding Unit
Acknowledgments: The collection of samples was funded by MLA and undertaken by NSW Ag technical staff. Primegro Ltd, which has an exclusive licence to market the patented PrimeGRO™ IGF-I test, funded the analysis of the samples. Mr Mark McKenzie from Primegro can be contacted for collection kits and details on cost of test on 08 8354 7791.

Research and development at AGBU

In Sept 2003, the Beef Improvement Association of Aust. awarded David Johnston a fellowship recognising his outstanding contributions to genetic improvement in the beef industry. These awards are nominated by BIA branches, in this case Albury Wodonga. David completed a Ph D at the University of Georgia in 1992 and has since been based at AGBU as beef genetics project leader. During this time he has had major involvement in the R&D for most new features in BREEDPLAN. Some of these he writes about on the adjacent page. Others which come to mind include: the fertility traits; mature cow wt; combining scan and abattoir data for carcase EBVs and multibreed EBVs .He has also been a project leader in key CRC genetics programs, helping integrate these into BREEDPLAN. Somehow he finds time to accept many speaking engagements. These are always well presented with great slides - a career in the dramatic or graphic arts would also have been a possibility!

Well done David - it’s a privilege to work with such a professional!

Brian Sundstrom

http://breedplan.une.edu.au
Interest in BreedObject $Indexes has continued to grow through 2003, with a number of significant developments:

- The Australian Brahman Breeders’ Association (ABBA) published its first $Index in May. The $Index targets a self-replacing herd producing Jap Ox grass-finished by 32 months of age. A pleasing genetic trend for the breed is evident, based on results from the June 2003 Brahman Group BREEDPLAN analysis (Figure 1). The ABBA technical committee, Christian Duff & AGBU have recently been working towards further refining the $Index.

- The Charolais Society launched two new $Indexes.

- Two large northern Aust. pastoral companies, Stanbroke and Australian Agricultural Co. developed $Indexes customised for their operations. The AACo $Index is for their Gulf Composite herd. Their animal and EBV search options through BREEDPLAN, are similar to those now used by many of the Breed associations.

- 17 $Indexes, in widespread use in the Angus, Hereford, Limousin, Murray Grey, Poll Hereford, Shorthorn and Simmental breeds, were also updated.

Steve Barwick

$Index use grows

Figure 1 - June 2003 Brahman Group BREEDPLAN analysis.

Imported sire information

With version 4.1, BREEDPLAN began including genetic information (EBVs and EPDs) on immigrant sires, dams and embryos, from overseas sources. Initially this was confined to weight traits only. However, expansion of systems overseas has increased the number of traits on which EBVs are available. Unlike BREEDPLAN which analyses all traits (except calving ease) in a single multiple-trait analysis, EBVs from foreign sources are generally derived from a number of separate evaluations. BREEDPLAN was designed to use this information as a ‘starting value’ until sufficient data were collected to adequately reflect the immigrant individual’s performance locally.

Recently, however, feedback from breeders has suggested that BREEDPLAN was over emphasising the foreign information at the expense of local information. Research at AGBU revealed that because of the conflicting methods of evaluating multiple traits as either one joint analysis, or a number of single and multiple traits, has exacerbated this problem. A modified method for incorporating this information may be included for the next GROUP BREEDPLAN analyses. Breeders will be notified when this is implemented. Less emphasis will be given to foreign information, particularly that of extreme overseas EBVs.

Benchmarking

New StockTake software is undergoing trials before release to BREEDPLAN users on a regular basis. StockTake identifies key performance indicators (KPI) at breed and individual herd levels within a breed. At this stage KPIs have been established as those that predict differences in genetic progress between herds in a breed standard $Index for a given time period (e.g. 1995-2000). The KPI identified from our research to date, have usually been variables closely in line with the genetic theory (e.g. genetic superiority of sires used). In addition to the KPIs identified for a breed/$Index combination, StockTake also computes statistics for other variables of use to breeders (e.g. average inbreeding level, age at first calving, AI and ET usage).

The delivery of StockTake reports is now being developed (e.g. web graphics, confidential herd reports). These will be able to be produced at the completion of the each BREEDPLAN run. Reports will allow breeders to benchmark their genetic progress against other herds in their breed and use the KPIs to identify focus areas for future breeding programs. StockTake software was developed by AGBU in our MLA BGEN.100 project.

David Johnston

AGBU news continues Page 14

http://breedplan.une.edu.au
Kay Payne has one of Australia's longest histories of performance recording, and a very highly regarded herd. She began recording her "Elite" Poll Hereford herd in 1967, was a trial BREEDPLAN herd in 1983/4 then a full BREEDPLAN participant since its commercialisation in 1985. The herd of 300+ cows, is run near Scone NSW. Commercial and registered cattle are run and recorded together - no favouritism! Bulls and replacements are kept from either on merit. In the 1990's most of the commercial steers were sent through an alliance to feedlots to obtain feedback for the heavy domestic market. In recent years, apart from last year's drought, grass finish at home for the EU market has been more profitable. Steers achieve this by 12 to 20 months, depending on seasons. 15 months is the target to average 250kg dressed weight. I recently attended Kay's annual bull sale (conducted by the buyer friendly Helmsman system), and pass on some replies to questions I asked as we walked through her excellent '02 bull drop:

The cattle are at the top end of British breed muscling. Average Eye Muscle EBVs for the '02 bulls was 2.7 which is in the top 10% of the Poll Hereford breed. How did you achieve this, visually or through EMA EBVs and scanning? "Mainly the latter" said Kay "Visual assessment is less reliable, even with very experienced assessors. The carcase EBVs are more certain, and are now much better to use since they have been expressed on a steer weight basis."

Does calving ease worry you when you select for higher muscling? "I keep a close eye on birth weight and calving ease EBVs of course, and find the calving ease EBVs very good once accuracy reaches reasonable levels. Of the visual features affecting calving, I feel skeletal structure of the calf is more important than muscling", commented Kay. "The NSW Agriculture Angus muscling selection lines at Camden have shown no increase in calving difficulty despite being 1.5 muscle scores apart. The top line cattle averaging C+ are still very functional and free calving. The steers have made an extra 15 -20c/kg live wt compared to the Lowline (D-) at the same weight and fat cover."

How about non genetic influences on calving, particularly first calf heifers? "I think nutrition during the first three months of pregnancy has a big influence. If nutrition is poor then, the heifers compensate by setting up a bigger blood supply to preserve nutrition of the foetus. Then if they are on good feed for the last three months they can produce very big calves. This leads to increased calving difficulty from bigger calves and less well grown heifers. Given our erratic seasons, it is hard to control heifer nutrition at times, but at least if you are aware of this concept, management can aim at minimising problems."

A testimony for the muscling and carcase quality of the "Elite" steers, was a second placed pen of two, hoof and hook, in the recent Scone carcase competition. This includes mostly specialist crossbreeders, ensuring a tough competition.

Kath Donoghue has joined AGBU as a Beef Geneticist. Kath comes from Coolah, NSW, where she had close association with her family's Toolangatta Hereford stud and has a small registered Hereford herd of her own. Kath received a Junior Research Fellowship from MLA to the University of Georgia in the USA. There she completed her Masters on the feasibility of an international genetic evaluation for Charolais across Australia, N Z, Canada and the USA. Her PhD was on combining AI and natural service data for fertility EBVs (see page 6). At AGBU, Kath will investigate an international evaluation for Limousin and Charolais across Australia, New Zealand, Europe, and USA. She will also conduct research for international BREEDPLAN clients including US Salers and Hereford Associations in USA and Canada.
Stud cattle breeders have long dreamed of predetermining the gender of some matings. Where AI is being used, sex sorted sperm would be the way to do this - how far has this technology advanced?

The most promising technology at present is developed by the US company XY Inc. They support research in this field in many countries including projects at Sydney University Vet School. Fiona Hollinshead, who has just completed a PhD in Sydney, provided some of the following information. Other parts I have summarised from a phone discussion with Dr Mervyn Jacobson of XY Inc.

- The current XY Inc system uses a modified flow cytometer (originally for blood separation - see pic) to ‘draft’ or separate the male and female sperm. Female sperm have slightly higher DNA content, which allows separation of sperm as they flow ‘in single file’ past UV laser and fluorescence detectors. They ultimately flow into two separate collection tubes. While this is done at an impressive 4,000/sec, it can still take approx. 15-20 minutes to produce a 2 million sperm straw (depends on factors such as quality of the sample/ejaculate). Most Australian frozen semen straws have 25 million sperm, aiming to ‘deliver’ 15 m. active sperm on thawing. XY Inc have added technology developments which allow successful low dose insemination from straws as low as 2 million sorted sperm.

- The sorting equipment is currently very big and immobile ie best where bulls are on site and fresh semen can be collected, sorted and then frozen. The most common beef cattle use at present is therefore in big AI centres. US engineers hope more portable equipment will be available within a few years.

- Fiona has also experimented with sex-separation of frozen-thawed and liquid stored ram and bull semen. In one case, liquid stored semen came from Rockhampton. Both techniques showed promise, but require more semen to start with, as they contain a lower % of viable sperm than fresh semen.

- XY Inc works with many domestic species including cattle, sheep, pigs, horses and dogs. Captive animal programs include elephants and dolphins and some endangered species where female numbers need rapid boosting. Some 150,000 ‘totally normal’ sex selected progeny have now been born. The first cattle from sex sorted fresh semen and AI, were in 1995, some of these have since contributed to further generations.

- While the current technology sounds slow and expensive, the potential is enormous with for example juvenile IVF programs. Very young heifers, preselected on BREEDPLAN EBVs, could produce 50 or more eggs each and a straw of sexed sperm can fertilise up to 400 eggs! One of the large northern Australian pastoral companies has recently tried this with 40 heifers, to multiply some valuable new composite lines. I hope to be able to report on this next issue.

The XY Inc system is now commercially available in the UK and Argentina with the US, Mexico, Brazil, Canada, China and Japan to follow shortly. Negotiations in Australia and NZ are in progress, with commercialisation planned within 1 to 2 years. It is hard to predict when sex sorted sperm will be more widely used in the average stud. Such technologies can improve rapidly, but are also at times frustratingly slow. I sense things are moving quite quickly, so watch this space or http://www.xyinc.com

Brian Sundstrom

http://breedplan.une.edu.au
Towards paperless recording

The BREEDPLAN and Saltbush teams now provide breeders with three ways to enter registration and performance data and receive reports electronically. These are shown in the diagram below.

**Option 1 (See page 18)**
Is for smaller herds (say less than 70 cows). You need just a web browser, member number and password and access to Internet Solutions (See article by Murray Scholz on page 18).

**Option 2**
Is for larger herds and involves the on-farm installation of herdMASTER software and submission of batches of data via internet (see opposite).

**Option 3**
Is an alternative approach for smaller herds using herdMASTER.Net. It provides a full herd management system over the web at an economic price. (Also described on the opposite page).

Some breeds have already reached 90% electronic recording.

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**SOS - Saltbush on-line support, for when you need help**

As part of Saltbush’s on-going plans to provide more services to our customers, the Saltbush Web site has been upgraded to provide many new features. It is currently being tested, and when it is ready (late 2003) you will be able to appreciate these new services:

- Information about the latest product versions
- Tips about getting the most from your Saltbush product
- Answers to Frequently Asked Questions
- A search engine for finding solutions for your Saltbush problems
- Download upgrades for current Support users
- 24 Hour, 7 day a week on-line support assistance

The help and information available via the SOS is available to all Saltbush Users that have a currently active Support and Maintenance Agreement (SMA).
Customer feedback about future needs for Herd Management Software has resulted in the development of Saltbush's most ambitious development schedule ever. Many readers will be familiar with our new package "herdMASTER", initially released in 2002. A major upgrade with many new features requested by users, was recently released. However, herdMASTER is not just a product for PC-based Herd Management, but the first in a family of products that will be released progressively from the day you read this Newsletter. Let me introduce you to the family members:

**herdMASTER.NET on the WEB**
This new product is aimed primarily at herds of less than 70 cows, which covers the majority of stud breeders. All you need is a web browser, and you can log into herdMASTER.NET on the Web. That is, you have the full capacity of an advanced herd management system without having to outlay $1000 or so for the software. You will simply pay an economical annual fee through ABRI or participating breed societies.

**herdMASTER PC**
This is our popular on-farm; desktop PC or notebook PC based Herd Management System for medium (over 70 cows) to large producers. It is the product that stud cattle breeders are upgrading to from Herd Magic and other herd management systems. Users with a support agreement automatically receive free upgrades - like Version 2, soon to be released and including a range of enhancements requested by our users. This will also include a streamlined version for commercial producers.

**herdMASTER.NET Server**
This is a herdMASTER product with real grunt! Designed for the larger or corporate producer, it has multiple-farm and multiple-user capabilities. It runs with a powerful SQL database on a central machine with users connected via a broadband network. It includes the ability to receive and consolidate performance data from remote herdMASTER PCs. If your enterprise needs a comprehensive and integrated herd recording system, then herdMASTER.NET Server is for your company. Why not contact us now, while herdMASTER.NET Server is under development, so that we can be sure it will meet your needs.

**herdMASTER Pocket**
Pocket PC's are highly portable, calculator-sized devices capable of storing a large amount of information. They have small touch-sensitive screens. We are developing a specialised version of herdMASTER to allow these devices to be used in the field to answer those ad-hoc queries. They can also be used to capture data from scales and Electronic ID readers. Of course herdMASTER Pocket will have the capability to transfer your records to and from other herdMASTER systems.

**herdMASTER Field**
A variety of new technologies lend themselves for data capture and retrieval in the field. These include devices with large touch sensitive screens and also devices that are ruggedly built. They make ideal systems for field installations, such as for capturing data at the cattle yards. We are working with suppliers to produce versions of herdMASTER PC and herdMASTER Pocket for these new technologies. Stay tuned for future developments in this herdMASTER Field!

So there you have it! Saltbush is committed to providing a total systems solution for the data information needs for livestock producers covering quality assurance, NLIS traceability, performance recording and a registration interface. Before you commit yourself to a supplier for your needs for the next decade, consider these capabilities of Saltbush:

- Pioneer of Herd Management Systems for 23 years
- Able to deliver integrated Web/Server/PC and Pocket systems. We can provide a system to suit you, not a system to just suit us!
- A team of ten staff including three software engineers specialising in livestock management systems.
- A division of ABRI, the pioneer of performance recording 33 years ago.
- Ability to customise systems for your needs.

You've got a business to run! Talk to the professionals, talk to Saltbush!

Bryce Little,
Systems Development Manager,
Saltbush Agricultural Software

http://breedplan.une.edu.au
A number of Associations have already been using BREEDPLAN’s Internet Solutions for their capture of calf recording/registration data over the last year. Recently this service has been extended to also capture performance data for BREEDPLAN (eg. Weaning data, Yearling data).

This method of data submission to BREEDPLAN is particularly suited to smaller herds, and has a number of advantages over paper-based recording of performance data:

- Validation and checking of data is performed at data entry stage. Errors or warnings are displayed immediately resulting in ‘clean’ data being submitted to BREEDPLAN.
- Faster turnaround of your data (and subsequent availability of updated EBVs). Performance data is electronically transferred direct to your BREEDPLAN processor, with no need for re-keying.
- On-line summary/review screen of data prior to submission, enables easy detection of possible errors and omissions
- Drop down lists for fields ensure data integrity and ease of data entry.
- Permanent record of historic data submissions for your herd always available on-line.
- Ability to enter Mature Cow Data (weight, condition score) and live animal scan data (FATS, EMA, IMF).

Limousin BREEDPLAN users in Australia, and to a number of ABRI’s North American BREEDPLAN clients. It will be progressively rolled out to more of the Australian and New Zealand breeds over the coming months. All breeders will need is a home PC (with web browser), and access to the internet. Access to these facilities is via your Breed Association web site, using your Herd Letters / Member Number and Password. Please contact your BREEDPLAN Processor or your Breed Association regarding access to these facilities.

Murray Scholz

Example Summary / Review Screen

Example Data Entry Screen

Example Data Entry Screen (Mature Cow Weights)
Benchmarking for stud clients

In Beef Production enterprises, it can often be difficult to simply identify the major factors driving profitability. We often hear or read of cattle producers, gleefully letting us know that they “…topped the weaner sales!” or “…sold 800 kg bullocks at an average of $X/hd”. However, these achievements are very poor indicators of overall herd profitability.

The key to understanding the factors most influencing beef profit is the same as for any other business - selling wheat, widgets or hours of consulting time. That is, you must measure and understand your costs and price received per unit of product, and how many units of product are produced. In beef production, the critical factors to measure are:

- Costs to produce a kg of Beef cattle \( \$COP/kg \)
- Price received per kg of Beef cattle \( \$Received/kg \)
- Kg of Beef cattle produced per Ha \( \text{kgBeef/Ha} \)

These benchmarks are the critical profit drivers and combine to make the Beef Profit equation:

\[
\$/\text{Ha} = \text{kgBeef/Ha} \times (\$\text{Received/kg} - \$\text{COP/kg})
\]

Benchmarking offers the opportunity to measure, separate the components, clearly identify the strengths and weaknesses, and compare your beef business to others so as to move forward with a focus on improving profitability. In my opening paragraph, the statements involve quoting per head production or prices, while profit is the difference between price & costs and how much is produced. If you topped the weaner sales but ran half the stock as your neighbour on an equivalent property, you are unlikely to be more profitable. Benchmarking would highlight poor kg Beef/Ha and a high $COP/kg as weaknesses to work on to improve herd profitability.

At “Wirruna” we run benchmarking days for our bull clients through consultants Holmes Sackett & Associates at Wagga (Principal, Phil Holmes pictured). Benchmarking has helped our clients focus on the key profit drivers in their beef businesses. The top 20% have average COP of 81c/kg and the bottom 20% $1.24. Over the last 8 years of our own Benchmarking, we notice that the more profitable herds are highly influenced by management. The more profitable herds tend to have lower $COP/kg and higher kgBeef/Ha. The resultant cow phenotype is moderate size, with ease of calving. The high profit herd managers select bulls with a balance of genetic traits and fear extremes, particularly growth traits. With the $Indexes ranking these types of bulls highly, the past EBV selection techniques of these managers are being vindicated by the $Index rankings. It has put many of the genetic traits into perspective and in particular it has highlighted the dangers in chasing extremes. Benchmarking encourages assessing performance per kg or per ha, rather than $'s per head. Once you experience this paradigm shift, you look at cattle breeding from a different perspective.

Ian Locke
“Wirruna” Polled Herefords
locke.ian@bigpond.com
(Ian is also on the ABRI board and its NBRS/BREEDPLAN sub-committee)

Wagyu newsflash

Wagyu is a breed on the move. In the 12 months to June 30, 2003 the Australian Wagyu Association (AWA) registered 2963 cattle - a five-fold increase on the previous year. During this period, most other breeds have seen registrations decline due to drought. The AWA’s profit for 2002/03 came in at 27.3% of gross turnover - an outstanding result. The Association held a BREEDPLAN Workshop in Toowoomba on November 14, 2003 for which 100 people registered. There is a concerted program underway to populate the AWA database with a wide range of performance measures, particularly carcase data. This is being assisted by an MLA PIRD grant. It is hoped that there will be enough information recorded by mid- 2004 for ABRI to run the first Wagyu GROUP BREEDPLAN.

On November 15, AWA’s 2nd World Wagyu Symposium attracted around 200 delegates. Participants were pleased to learn that the Japanese quota for live imports from Australia in 2004 should reach 21,000 head, most of which will be of Wagyu and Wagyu-infused cattle. A number of feedlots are now each running several thousand Wagyu-infused cattle that are aimed at high value markets. The Executive Chairman of the Twynam Agricultural Group, Christine Campbell, told the Symposium that of around 15,000 breeding cows in the Twynam operation, 10% are now committed to Wagyu matings. Symposium attendees left with a great sense of optimism. In many ways the Symposium justified its promotion as the “Coming of age” for the Wagyu in Australia.

Arthur Rickards
Limousin - EID alternative to tattooing

The Australian Limousin Breeders’ Society (ALBS) is the first Australian beef breed Society to accept NLIS ear tags as the sole alternative to ear tattoos as a means of “permanent” identification. The Society is well aware that some cattle will lose NLIS tags but breeders will continue to use large ear tags for paddock identification and the chances of both tags falling out between musters is very low.

Even with tattoos and ear tags some identities are lost in large herds when the ear tag falls out and the tattoo is unreadable. We have not changed our primary identification system of herd code, grade, year letter and number but the NLIS number is recorded on our data base and printed on the pedigree certificate so the visually readable NLIS number on the tag can be used to identify the animal. Both our web and manual registration systems allow members to record the Property Identification Code (PIC) and the individual NLIS number for each calf when it is submitted for registration. We do not allow rumen boluses as a means of identification at this stage as the number cannot be read without a scanner. If an NLIS tag falls out and has to be replaced the owner must notify the society of the new NLIS number for that animal. We have one breeder in Victoria with over 200 cows who has been successfully using NLIS tags in place of tattoos in his calves for two years. If breeders are unsure of the “permanent” nature of the NLIS tags they can still tattoo their calves but they may use a shortened version with just the year letter and number. Our members have generally welcomed the decision as it means they are getting extra value from the cost of the NLIS tags and they can do away with the laborious and messy job of tattooing each calf.

Alex McDonald
CEO Australian Limousin

Senepol optimising electronic transactions

The Australian Senepol Cattle Breeders Association is one of the latest associations to contract its registration and performance recording with ABRI. The recently formed association considered the ABRI registration and BREEDPLAN as the best way forward for the breed.

Looking to the future the Association has the goal of using the ABRI Internet services to maximise electronic registration and recording and transfer of data and to minimise the paper trail. It was initially hoped to go completely electronic, but the breed is currently going through a development phase where most breeding is with imported frozen embryos. Not all ET registration can currently be done electronically.

Senepols are a tropical breed from the Caribbean island of St Croix. Developed from the N’Dama breed of West Africa and the Red Poll from England, these tropically adapted Bos Taurus cattle also carry a slick hair gene. The presence of one copy of this gene confers a sleek coat, heat resistance equivalent to Brahman and good tick resistance. Being an adapted Bos Taurus breed, tenderness of their beef is a strength for northern crossbreeding. As mentioned above, there is currently a high level of ET and also interest in JIVET (Juvenile In Vitro ET see p15).

With a lot of imported US genetic material at present, the US Senepol website is heavily used for EPDs, but it is soon hoped to have Australian BREEDPLAN EBVs bolstered by the US information, as done by several other Australian Associations.

www.senepol.com.au

Don Nicol
Breedlink Consulting

A Senepol infused composite bull.