The Cryovac system evacuates air from a bag in which meat has been stored to enable exporters and retailers to store and age muscles for up to 28 days. The introduction of the Cryovac system was the catalyst to enable meat retailers to sell a wider range of cuts even though they may have low quality cuts together through the same store. This forced carcasses and then they would have had to sell the premium and select markets. In the past a retailer would have purchased whole carcases for the MSA grading system. There are approximately 65 brands that are now MSA accredited.

The number of beef brands in Australia is ever increasing as established brands attempt to secure smaller market segments and new brands move into niche markets. The increase in branding has come mostly as a direct result of the MSA cuts based grading system. There are approximately 65 brands that are now MSA accredited.

The domestic beef industry has move from a carcass base grading system to a cuts based system and this change has meant that there is more opportunity to supply different muscle products to select markets. In the past a retailer would have purchased whole carcases and then they would have had to sell the premium and low quality cuts together through the same store. This forced retailers to sell a wider range of cuts even though they may have been in a low or high income demographic area.

The introduction of the Cryovac system was the catalyst to enable exporters and retailers to store and age muscles for up to 28 days. The Cryovac system evacuates air from a bag in which meat has been stored and that process reduces the amount of oxygen surrounding the product which reduces spoilage. Importantly the product is still able to age but at a slower rate. The system has been refined over the years with various gases being added to increase shelf life of the product. Meat can be kept fresh for up to six months with current gas flush and vacuum technology.

During the eighties meat retailers gradually switched into using boxed beef as they found that they could reduce spoilage, minimise waste and decrease the quantity of meat that had to be discounted. Much or the early trade was in “export” graded primal. During the nineties many abattoir companies developed their own “domestic” and “export” product specifications which were based on Aus-Meat standards for carcases.

Meat Standards Australia has been developing specifications for retail cuts that are based on animal history, carcass grading, aging time and cooking method. This system has evolved to a stage where cuts are graded into categories of “fail”, “3-star”, “4-star” or “5-star” product. The MSA system is designed to underpin the eating quality guarantee at three quality levels; however, the majority of muscles fall into the 3-star category. In November this year Woolworths announced that it would also commence using the MSA grading system. This will place more pressure on commercial producers to ensure that they can comply with MSA standards.

Many companies are adding further restrictions on animals above the MSA requirements. Coles, for example, requires that animals are not treated with HGP’s. A range of companies have maximum weight restrictions, age restrictions and or fat restrictions to further differentiate their product in the domestic or export markets.

The premium export brands for beef were centred on Japanese market specifications which required heavy marbling.

Over time the Wagyu breed has increased in number, developed and now invested heavily in research to feed animals to heavy fat specifications. This is a niche market which has become highly specialised in the past five years. Suppliers to this market are generally committed to a limited end point specification. British breeds promote their higher marbled beef but, increased fat deposition does not necessarily promote a higher quality eating experience. Feeding animals longer to increase fat deposition has the negative effect of increasing ossification which decreases tenderness.

A minimum level of fat is required to insure that there is sufficient energy available to aid in meat tenderisation during the aging process. This is also important for ultimate pH to ensure meat colour, water holding capacity and flavour. Too much fat can produce off flavours as well as good beef flavour but the result is dependent on cooking temperature and method. A considerable amount of research in Australia and overseas has revealed that consumers want less fat in their diet and this requires retailers to trim fat before meat is sold and many consumers trim more fat from products prior to cooking at home.

This trend has led to an increase in grass fed brands. Grass fed beef is popular in Australia, China, Russia and Europe and has become novel again in the United States and Canada. Grass fed beef primarily has less fat than grain fed beef; however, the flavours in grass fed beef can be more volatile as there are many more possible flavour compounds produced from fat from animals grazing pastures. Cargill recently introduced a brand called Grasslands Premium Beef (TM) which aims to take advantage of the 75 per cent of Australian beef that is grass fed. It enables the Teys-Cargill partnership to access more of the markets which are expanding relative to those that are now mature and stable.

Organic variations of vegetable and meat product brands have been around for 20 years or more. The organic market for beef is a relatively small segment. The costs of producing organically certified beef have come down over time and market premiums have also reduced as there are many competing organic products available in each of the meat species. Several companies have produced a “natural” brand to try and compete in this segment with the aim of bridging the organic and grass fed markets. The Cattle Council of Australia is working on a set of protocols to make the language of beef branding more consistent. The chicken and egg industry is suffering with multiple brands with conflicting brands and claims. The need to standardise brand nomenclature will become increasingly important as new claim variations are added such as animal friendly or free range beef.

The industry’s move into more branded products reflects an increasing level of confidence by processors and retailers that they can provide a guaranteed product quality through the MSA grading system. Grass-fed or natural brands are becoming more popular as market opportunities for these products expand relative to grain-fed. This will create more opportunities for Charolais breeders to align their commercial producers with premium brands.

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Looking Forward

Selling:
2 Powerful Performance Sires
Rockhampton - Feb All Breeds 2012
3 Elite Females
Toowoomba - 18th Feb 2012
45 bulls
(Ridge/Shrek, Harris & Care Charolais Studs)
Eidsvold Charolais Bull Sale - Early Sept 2012

On display at Beef 2012 – look out for us at the Charolais Australia site

Ashwood Park Charolais
Annual Bull & Female Sale
1PM Tuesday 6th March 2012

50 Bulls 20 Females
Elite Embryo Packages

Duncan Newcomen Tel: 0408 579 784 www.ashwoodparkcharolais.com
Bred to win! Ashwood Park Angel & LT Pico Bravo calf.
Royal Melbourne Show 2012 Supreme Exhibit.

Ashwood Park Selling Complex, Break O’Day Rd, Flowerdale, Vic.

Charolais
Taking it to the edge

Contact Ross & Paula Warren | Phone 0438 866 213
Moorabbin Mountain Gympie Qld | elridge@bigpond.com.au

Scrotal Size Selection

The scrotal size of a bull has been linked directly to early performance, better quality and quantity of semen and earlier maturing females.

There are many extension articles on bull buying that do not recommend purchasing a British or European bull with a scrotal size of less than 30 centimetres. Bulls with smaller scrotal sizes can be fertile but lack the semen volume necessary to cover 45-50 cows.

Armquist, Branas and Barbera (1976) evaluated the semen quality of Charolais bulls at 41 weeks (puberty) to two years of age.

In that time period scrotal circumference increased by 32 per cent. Bulls that ejaculated more often, 6 times per week rather than once per week, produced smaller volumes but more total sperm and total motile sperm per week. As the bulls increased in size from puberty the total volume of ejaculate increased; however, the concentration of sperm in the semen did not change substantially beyond 61 weeks. Sperm motility was significantly greater for those bulls that ejaculated six times per week relative to once per week. Scrotal circumference at 65 weeks was found to be highly correlated with the circumference at two years of age. One of the bulls in the study had a 30.9 cm scrotal circumference at two years and it only averaged 3.4 x 10^10 weekly sperm output relative to 3.4 x 10^11 for the other bulls in the trial. Testes growth and sperm output was reported to have plateaued by 90 weeks of age.

Latimer, Wilson, Cain and Strikkin (1982) examined data on bulls at five research stations in the United States and Canada during the period 1974-1979. The study reported that the average scrotal circumference of Charolais bulls was 33.7 cm. However they found that there were significant differences between the measurements at each of the stations. This is to be expected given that the stations recorded data in different years and scrotal circumference can be affected by disease, feed quality and availability. Scrotal circumference was found to be independent of fat and eye muscle area and was dependent on weight gain.

Gregory, Lunstra, Cundiff, and Koch (1991) conducted a multibreed study to examine the relationships puberty of females and scrotal measurement of males. The average scrotal circumference at 368 days was 31.4 for Charolais. Puberty in Charolais females was estimated to be 391 days. This was 25 days older than the average of the other breeds at 376 days. Paired testicular volume was highly correlated (0.94) with female age at puberty relative to scrotal circumference (0.93); however, the two testicular measurements were highly significant.

One third of the females recorded in the BREEDPLAN data set calve at two years whereas two thirds calve at three years. The breed could make significant gains in selecting bulls for scrotal circumference which would in turn decrease the average age at first calving. It is important to take into account the calving ease of the sire and nutrition management of the heifer during pregnancy when making this decision.

The average phenotypic scrotal size of BREEDPLAN recorded Charolais bulls remains around 33 centimetres. There has been a 0.5 cm increase genetically over the same period. However, only 23 per cent of the 2009 drop of Charolais bulls has data recorded for this trait on BREEDPLAN. It is recommended that you measure scrotal circumference when the bulls are reaching puberty, which will vary according to seasonal conditions and the maturity pattern of your cattle. In the majority of cases, scrotal circumference should be recorded when bulls are being weighed at 400 days.

The guide to performance recording that describes the method to collect and report scrotal circumference measurement is available on the BREEDPLAN website: breedplan.une.edu.au/booklets/.
Monday 23rd June - The first visit will be to Haven Castle, the home of the Bulmer family in Tudor times. Followed by a visit to Jan and Sarah's Boomerang Charolais herd located in the county of Kent, once known as the Garden of England. The tour will move north for the formal registration in the Holiday Inn at Stratford-upon-Avon, where the delegates will have the opportunity to take in the 'Shakespeare Experience'.

Tuesday the 24th June - The delegates will have time to catch their breath, and have a free morning in Stratford-upon-Avon where there is the opportunity to visit the newly refurbished Shakespeare Theatre (there will not be a Shakespearean production at that time of day), or take a boat trip on the river Avon, or a bike tour around the town, or just take time to relax, and have a coffee in one of the many bistros.

In the afternoon Peter and Sheleagh Donger's Seawell Charolais herd will be visited in the Heart of England.

Wednesday 25th June - The delegation will set off into the sheep and cattle country of mid Wales, and visit Evan and Mandy Owen's Trefaldwyn herd. Following the herd visit the tour will head north, through Wales, taking scenery in the Snowdonia National Park to stay two nights in the St Georges Hotel, Llandudno.

Thursday 26th June - We will visit Owain Owen's and pedigree commercial beef herd situated at Bray's y Sant, Criccieth. This is an idyllic farm, with panoramic views overlooking Cardigan Bay. If the farm visit there will be a rare opportunity to visit the slate mines at Lluestudda Slate Caverns in Blaenau Ffestiniog, one of North Wales top tourist attractions. Or, the delegates may wish to relax by the sea side. In the evening there will be a Welsh dinner, followed by Welsh entertainment.

Friday 27th June - The tour will set off for the ferry terminal at Holyhead, on the island of Anglesey in preparation for a 'cruise' across the Irish Sea to Dublin. En route we will take a short break to visit the famous station at Llanfairpwllgwyngyll-gogerychynygwd一條llantysilio-gogoch.

After arriving the Holy Sea, we will arrive at the beautiful situated Killyholme Hotel on the banks of Lough Eirme in Enniskillen, Co. Fermanagh, Northern Ireland. There will be a chance of no stay to take in the renowned hospitality of the Northern Ireland Charolais breeders.

Saturday 28th June - The Northern Ireland committee are organising a herd visit in the morning followed by the Northern Ireland National Charolais Show to be held in Eccleskirk. The ladies (or men if they wish), will be able to visit the famous Belleek pottery factory.

Sunday 29th June - In the morning we will visit the Ulster American Folk Park, with opportunities of meeting some of the farmers who emigrated from Ireland during the potato famine. This visit will be followed by a visit to Stuart and David Bothwell's Killadrew herd in the afternoon, and the last farm visit followed by Irish entertainment.

Monday 30th June - There will be a visit to the Ulster Heritage Site of the Grant's Castleway on the North Down coast, followed by a visit to the Bushmills Distillery. In the afternoon the entourage will visit Gilbert and Hazel Crawford's Coolroom Charolais cattle.

Tuesday 1st July - The Congress leaves the shores of Northern Ireland to take the short ferry crossing, through the Firth of Clyde to Scotland, for a five night stay in the Doubletree by Hilton Hotel in Dunblane.

Wednesday 2nd July - The programme is in Northumberland, in the Border country to visit Filsneck Castle and Gardens, the seat of the Duke of Northumberland, and the setting for some of the Harry Potter scenes in the "The Philosopher's Stone". In the afternoon the tour will visit JHC Campbell and Sons' Thornhill Charolais herd.

Thursday 3rd July - There will be a full day visit to take in the Charolais judging at the Royal Highland Show in Edinburgh, which is one of the Ulster's great outdoor agricultural events. In the evening a dinner will be held in the hotel with the Charolais breeders who had exhibited at the Highland Show.

Friday 4th July - The Balnathog Charolais herd owned by Davie & Nick Lallier will be visited in scenic Perthshire. The Lallier family have been strong advocates of performance recording their Charolais cattle. The results of which can be seen in the commercial suckler herd.

In the late afternoon, following a freshen up in the hotel, the tour will visit Murray and Fiona Lyte's Logbar Charolais herd, to view the cattle, and for an evening of Scottish festivities.

Saturday 5th July - There will be two options. One will be to visit the Royal Highland Show, and take in the inter-breed judging. The International Animal Welfare Meeting will be held at 9.30am in the President's Marquee on the showground.

The second option is a visit to Edinburgh for sight seeing and shopping. In the afternoon there will be a visit to Peddie House, the former residence of Sir Walter Scott, and the shadow of Stirling Castle, and the Wallace Monument. After freshening up in the hotel, the coaches will travel the short distance to the Gala Dinner to be held in the Grand Hall in Stirling Castle. This will be the closing ceremony for the official Congress.

Monday 6th July - The first herd visit will be to the Mine family, and their Elgin herd based close to the Morny Firth on Speyside. This is a family unit, and has a history of running with Charolais bulls. Other sheep and cattle breeds on view, as well as commercial suckler herds for those delegates departing from Aberdeen. The majority of the herds will have brands of Scotch Whisky are distilled.

In the afternoon there will be the opportunity to visit the famous retail outlet Ulster Cash in Tomintoul, then onto the Glenlivet Distillery before visiting the Inverness family.

Tuesday 7th July - The first herd visit will be a short journey to view Neil and George Macias’ Ballin herd. Followed by the Barstley family’s Harstone Charolais herd. The final visit, this visit will be to Lorne’s and Dave Buxton’s Queensberry herd. The delegates will visit the Deeside hotel for an evening. The programme is in Northumberland, in the Border country to visit Filsneck Castle and Gardens, the seat of the Duke of Northumberland, and the setting for some of the Harry Potter scenes in the "The Philosopher's Stone". In the afternoon the tour will visit JHC Campbell and Sons’ Thornhill Charolais herd.

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Note: that there is an additional cost for Single Occupancy of rooms which is specified below.
Credit card charges of up to 2.5 per cent also apply. Approximate costs in Australian dollars are included but these may change.
In two recent articles in the Journal of Animal Science, an 8-year project conducted in New Mexico reported the benefits of supplementary feeding young cows, 2 or 3 years old, during early lactation with rumen undegradable, or by-pass, protein or what are called glucogenic precursors. The objective was to provide the cows with an additional source of energy that could be used to reduce weight loss early in lactation and therefore return to breeding in fewer days.

Rumen undegradable protein (RUP) is protein in a ruminator’s diet that can pass through the rumen without significant degradation during ruminal fermentation. Glucogenic precursors are feed ingredients that are metabolised by the cows to form glucose that is then used for energy requirements of the animal. These precursors are different to other forms of energy intake, i.e. pasture, in a cow’s diet as they are derived from proteins or other amino acid bases. In the studies reported the glucogenic precursor was calcium propionate, as well as protein meal.

The animals in all experiments were Angus cows with some Hereford crosses, all cows were either 2 or 3 years old and were managed in a typical unimproved pasture system throughout the remainder of the year and were in the experiment for 2 years. All cows were fed prior to calving using the same supplement however, after calving the cows were split into three groups and fed a supplement that differed in the amount of RUP (Rumen undegradable protein) and/or calcium propionate, with increasing glucogenic potential (44g/d [base] v 44g/d [RUP-only] v 94g/d [RUP+precursors]).

Glucogenic potential (GP) is the level of glucogenic precursors that maybe derived from the RUP fraction of the ration, and GP is assumed to be 40% of the RUP of each ingredient. For example, canola meal has a crude protein percentage of 43% and a RUP of 28%, assuming we have 34g of canola meal we would have approximately 40g (0.43 x 0.28 x 400g) of glucogenic potential. The GP of any feed depends on the RUP of the ingredient. The RUP of cottonseed meal is greater than canola meal at around 48%, but feather meal has a crude protein percentage of 86% and an RUP of 76% and therefore there is 260g of GP (0.86 x 0.76 x 400g) in 10g of feather meal. Pasture has a relatively low GP of around 30g.

All diets were similar in energy, crude protein and other macro and micro nutrients and minerals, except for calcium, which varied due to the form of ingredient required to meet the glucogenic potential of the supplement. In the RUP-only ration hydrolysed feather meal provided the RUP source, and in the RUP plus precursor ration feather and fish meal provided the RUP, as well as the calcium propionate. The level of glucogenic precursor in the experiment was based on a previous component of the overall experiment which showed that higher levels (8% as fed) of the precursor did not increase the reproductive rate relative to a lower level (4% as fed). The supplement was fed until cows did not lose any bodyweight across the different supplements. This meant that the range of feeding varied throughout the 8-year experiment from 72 days through to 120 days.

The outcome of the experiments showed that providing additional RUP or glucogenic precursors did change the reproductive rates of cows and overall productivity of the herds. Cows fed the basic ration had a pregnancy rate of 84%, those fed the RUP-only supplement had a rate of 88%, and those fed the additional RUP and precursor had a pregnancy rate of 95%. One of the reasons for the increased reproduction rate was that cows fed the precursor returned to oestrus quicker, 82 days after calving, relative to those fed RUP-only (87 days) or the basic ration (88 days). Another reason for the improved reproductive performance is that animals fed the precursor had a faster return (29 days) to oestrus from the point at which their bodyweight reached its minimum after calving than the other two rations (33 days for the RUP-only and 36 days for the basic ration).

With the improved reproductive performance of the RUP plus precursor diet, cows on this ration weaned more kilograms of beef over the two year experimental cycle (435 kg) than the other two supplementary rations (410 kg; RUP-only) and 418 kg (Basici). When considering the economic returns from feeding these supplements the researchers made some adjustments to ensure all comparisons were valid and concluded that, although the RUP plus precursor was more expensive ($0.464/d) than the other two supplements ($0.331/d and $0.372/d), in 150 cow herd this ration increased revenue by approximately $631 and $732, in years 1 and 2 respectively, over the basic diet and that feeding additional RUP without the precursor can also increase revenue by $2,032 and $4,128, in years 1 and 2 respectively, over the basic ration.

These studies showed that is it possible to increase the reproductive performance of younger cows through feeding a diet with a different mix of digestible and undegradable protein and improve the revenue stream from the cow herd. Ideally for Australian producers it is necessary to find an alternative to feather meal to provide the higher RUP, although cottonseed meal is a lower RUP than feather meal it may provide a suitable alternative. One simple method maybe to feed a ration with a lower GP than that in the RUP plus precursor ration of the experiment, but still aim for a ration with a GP above a basic ration through the addition of a precursor to achieve higher reproduction rates. The best solution would be to discuss your situation with your nutritionist and take into account what feeds are available at a reasonable cost.


by Peter Tozer
Why are Contemporary Groups Important?

BREEDPLAN analyses cattle in contemporary groups to take out animals that have had an equal opportunity to perform – either calves being fragmented into isolated groups of only one or few animals (and thereby virtually eliminating those calves from any comparison with their peers) or by not differentiating between calves that have had different levels of management or feeding.

Importantly, Charolais breeders have a major influence on deciding which animals will be directly compared within each contemporary group. This influence is through both their on-farm management and the submission of management group information to BREEDPLAN. In this manner, it is vital that breeders understand the factors that influence the formation of contemporary groups to ensure they maximise the effectiveness of their BREEDPLAN recording.

Additionally, a recent “audit” of the Trans-Tasman Charolais GROUP BREEDPLAN analysis (i.e. Australian & New Zealand) revealed that there were a significant number of small and single animal contemporary groups, particularly for traits recorded post weaning. For example, 1,047 bull EMA ultrasound scan records were within single animal contemporary groups therefore of no effective use to the BREEDPLAN analysis. This accounts for 15.1% of all bull EMA scan records within the 2009 to 2010 drop calves.

What is an Effective Contemporary Group?

The effectiveness of an individual animal’s performance record is based on contemporary group size as illustrated in the graph on the following page.

The greatest increase in effectiveness is from going from 1 record to 2 per contemporary group. That is, a record in a single animal contemporary group is not effective while a performance record in a contemporary group of 2 is 50% effective. Table 2 provides per contemporary group size the increase in effectiveness.

TABLE 1: Following is further detail on each of these criteria.

- **Herds**:
  - Only calves bred and weaned in the same herd will be directly compared in the same contemporary group.
  - This herd definition can be extended to include “associated herds” which have calves bred and managed as part of a larger herd. The most common example is where members of a family (eg. children) have a small herd and only sell part of them to a larger herd. In this case, the calf’s sire, dam and owner name that run as part of the main herd on the property.

- **Calving Year**:
  - Only animals born in the same “calving year” will be compared together in the same contemporary group. The calving year is the same as the year of birth of the calf. However, for herds whose calving period runs into the next calendar year (eg. from November through to March), calving year can be specified to span the period running across two different calendar years. This may be applicable to herds in northern Australia that calve over the summer months. In these cases, a financial year is more appropriately used as the “calving year”.

- **Sex of Calf**:
  - Only calves of the same sex at measurement will be directly compared in the same contemporary group (ie. bulls with bulls, heifers with heifers, steers with steers). Note that males that are weighed initially as bulls and then castrated will have their first weight compared with all the other males and their second weight only with the steers.

- **Number in Birth (Singles/Twins)**:
  - Only calves of the same birth number will be compared together in the same contemporary group. In other words, single calves will not be compared with twins. While twins can potentially be compared with other twins, the low occurrence of twin births generally means that very little performance information from twins is used in the BREEDPLAN analysis.

- **Measurement Date**:
  - Only animals of similar age will be directly compared. For example, the 400 day weight performance for two animals will only potentially be directly compared if:
    - both the 400 day weights were recorded on the same day
    - both the animals had the same measurement history

- **Age**:
  - Only animals aged between 1 and 3.5 years of age are compared with birth performance records for calves out of other cows. NOTE: This heren/sex distinction is only used for performance traits that are recordable up to and including birth (ie. weight at calving, growth, length, days to calving).

- **Calf Age**:
  - Only animals of similar age will be directly compared. For example, the 400 day weight performance for two animals will only potentially be directly compared if:
    - both the 400 day weight measurements were recorded on the same day
    - both animals had the same measurement history

- **Sex of Dam**:
  - Only calves sired by bulls that are recorded under the same breed of dam will be directly compared. For example, the 400 day weight performance for two animals will only potentially be directly compared if:
    - both the 400 day weights were recorded on the same day
    - both the animals had the same measurement history

- **Birth Weight**:
  - Only calves sired by bulls that are recorded under the same breed of dam will be directly compared. For example, the 400 day weight performance for two animals will only potentially be directly compared if:
    - both the 400 day weights were recorded on the same day
    - both the animals had the same measurement history

- **Slicing**:
  - Only calves that are changed to a standard age before comparisons are done. These are measures on the calf when the calf is born.

- **Parity**:
  - Only animals with the same measurement history will be directly compared. For example, the 400 day weight performance for two animals will only potentially be directly compared if:
    - both the 400 day weights were recorded on the same day
    - both the animals had the same measurement history

Hou do I Maximise the Size of my Contemporary Groups?

It is imperative that breeders try to maximise the number of their calves represented within each contemporary group to optimise the results from their performance recording. There are a number of strategies that can be implemented to achieve this:

- **Restricted calving periods**: As calves are only included in the same contemporary group if they are born within 45 or 60 days of one another, it is essential that small herds have a shorter calving period as practical. A calving period of 6 to 8 weeks is ideal.

- **Run all calves under the same management conditions**: Where possible, all calves should be run under the same management conditions. If calves are to be split into different groups it is useful to weigh the whole group before it is split. For example, it is possible to take 200 day weights anywhere between 80 to 300 days of age, so you can weigh all male calves as a group before a portion of them are castrated.

- **Weigh all animals on the same day**: As BREEDPLAN will only directly compare the performance of animals that has been recorded on the same day, it is important to weigh all animals within each contemporary group on the same day.

- **Associate Herds**: In the situation where two herds run their animals together under the same property, BREEDPLAN can associate the two groups to allow the performance of calves in both herds to be directly compared together.

- **Use more than one sire**: More than one sire should be used in any joining program. BREEDPLAN requires at least 2 sires to be represented in each contemporary group if the performance of the progeny is going to contribute to the calculation of EBVs for their sire. Where AI programs are used they should be tested so that AI sired calves are born at the same time as calves sired by natural jockeys.

- **Supply recipient dam details**: Herds that use embryo transfer need to identify the breed and age of the recipient dams of ET calves. If the breed of recipient dams is not supplied ET calves are split into single animal analysis groups and therefore their own performance cannot be used. To maximise the analysis of ET calves by BREEDPLAN, it is preferable if the recipient dams used are all the same breed so that they are grouped together.

Further information on BREEDPLAN contemporary groups can be accessed from Christian Duff - SBTS Technical Officer P: (02) 6773 2472 or E: christian@sbts.une.edu.au
Where to for beef genomics beyond the CRC’s current term?

The Beef CRC believes beef genomics research needs to continue with little interruption as can be achieved beyond the end of its term in June 2012.

By Dr Heather Burrow, CEO CRC for Beef Genetic Technologies

Without additional investment in genomics research, we estimate it will take the Australian beef industry another 20 years to achieve the same levels of productivity as could be achieved from an additional 5 years of funding. That represents a huge opportunity cost. To help achieve that ongoing funding, several meetings have been held over the past month to determine industry interest in continuing the research and to identify whether alternative funding sources might exist for this research, ideally from 1st July 2012.

A meeting of industry organisations on 12th October, Cattle Council and ALFA agreed to set up meetings with key Parliamentarians and their advisors to determine whether alternative funding sources could be found to allow beef genomics research to continue at the level that is needed. A brief background paper has been prepared for use at those meetings as they occur.

In addition to the industry meeting on 12th October, a meeting was also held with the Chair and a member of the CRC Selection Panel and DIISR’s Manager of the CRC Program on 20th October to receive feedback on reasons for the failure of the CRC extension application. Although not providing significant new insights, that meeting provided useful feedback on issues such as level and type (cash or in-kind) of industry and research contributions needed in successful CRC bids, the need for international partnerships and whether alternative funding sources might be found to allow beef genomics research to continue at the level that is needed.

The Beef CRC believes beef genomics research needs to continue with little interruption as can be achieved beyond the end of its term in June 2012.

By genotyping with the Illumina 50K or 800K SNP chips and using imputation methods to impute 800K genotypes from 50K genotypes, the CRC now has more than 10,000 animals with 800K genotypes. The number of animals with phenotypes and genotypes is 3,695 for growth and carcass traits, 2,538 for Net Feed Intake, 4,832 for female reproductive performance and 1,124 for male reproductive traits.

Using these phenotypes and genotypes, the CRC developed genomic prediction equations and tested them in additional animals not used for prediction and not by the same sire as those used for prediction. The accuracy of predicted breeding value is close to the targeted 0.4 for some traits, but lower than expected in the fat-related traits.

Over coming months, additional analyses will be undertaken to improve the accuracies of these results prior to licensing the most accurate prediction equations to BREEFPAF and genomics companies operating in Australia by April 2012. We estimate the current accuracies can be improved for most traits by 5-10% over coming months.
Bruising - Horns or Handling?

by Peter Tozer

Bruising of carcasses is a costly imposition on beef producers and the industry as it affects price received for cattle by producers and reduces the quality of carcasses in the beef supply chain therefore impacting consumers and processors. There are no recent estimations of the cost of bruising to the industry, but using the average trim loss due to bruising, current slaughter numbers and carcass value, an estimate would be in the region of $32 million, without accounting for the costs of time to trim carcasses. The average trim due to bruising appears to be fairly steady at around 1.1 kg per carcass or approximately 0.5% of carcass weight, however the range can be from 0.5 kg up to 2 kg, and in some severe cases reported, condemnation of the whole body.

The causes of bruising are relatively simple, either through butting and fighting when moving and mixing cattle from the farm to the final processing point, or in the movement process itself, i.e. transportation, yarding, or handling. Research has shown that the carcasses of groups of horned cattle are significantly more bruised than those of hornless cattle (1.6 kg/carcass v 0.8 kg/carcass); hornless cattle include both polled and dehorned animals. Mixing of horned and hornless animals also results in higher carcass bruise damage than in hornless groups. One interesting point that was identified in one research article was that hornless animals initiated conflicts more often than horned cattle. Most of the bruise damage on carcasses, due to fighting and the use of heads and horns, was on and around the forequarter area of the body, with some further damage on the lower hindquarter region, away from the high value parts of the hindquarter.

Handling of cattle and transport up to and including the final processing point can also inflict bruising on the carcass. Bruising in transport and holding or sale yards occurs due to poor construction of the yards with sharp corners or protrusions or other facilities within yards, such as scales and weighing yards, incorrect stocking density in the stock truck, or poor training of staff moving stock. In the case of this type of bruising the spread across the carcass was wider, and included higher value muscles on the upper hindquarter.

Many handling yards have had extensive renovations, or newly constructed yards are well designed, to minimise the number of sharp corners and protrusions therefore reducing the potential for bruising, but not completely eliminating it. Knowing the correct stocking density for transporting cattle is essential to ensure that stress and the potential for bruising is minimised during transport to sale yards and processing. One aspect of bruising that is outside the control of many producers is that of bruising within the processing facility, i.e. in lairage or even in the knocking box, however some research has shown that a large percentage of bruising can occur in the processing facility.

Two of the major sources of bruising are horns and handling. Of these two sources producers can control one to a large degree, and that is the horn/poll status of animals produced, by selecting bulls with a dominant poll gene and this can achieved by utilising the gene marker technology described in the last issue of the Crossbreeder magazine. The other source, handling and transport, can also be controlled up to a point with good training of staff and selection of transport operators with excellent knowledge of transporting stock with minimal stress on the cattle.
The cattle tick in Australia

By Dr. Emily Piper

The parasite is believed to have been introduced to the Northern Territory of Australia between 1829 and 1849 on Bo sapiens cattle that were imported from Timor. A comprehensive thesis by Beverley Angus (1996) describes how the unrestricted movement of cattle from Darwin through to Queensland in the latter half of 1839-1840, and the cattle tick had reached the Queensland coast at Townsville, at the turn of the century it was established in the Brisbane area, and was first found in NSW in 1906.

Today the tick infested areas of Australia include the coastal areas of Queensland east of the Great Dividing Range, all of Queensland north of the eastern north railway, and the northern areas of Western Australia and the Northern Territory. The distribution of the tick population in these areas fluctuates given the availability of hosts, rainfall, temperature and quarantine restrictions. Cattle are the most common hosts of *R. B. microplus*, but they may also be found on horses, goats, sheep, deer, camels and buffalo. Heavy tick infestation causes loss of condition and sometimes death due to ‘tick worry’ and loss of blood. It has been estimated that each engorging tick is responsible for the loss of one millilitre of blood, and as a consequence, anaemia is a common symptom of heavy infestation. Ticks are also vectors of the parasites that make up Australia’s tick fever complex of diseases (Babesiosis and Anaplasmosis).

Due to the widespread distribution of the cattle tick throughout some of Australia’s most expansive cattle growing regions, its economic impact is on a scale unrivalled by any other cattle parasite in the country. McLeod (1995) estimated the cost of tick treatment for Queensland producers to be A$240M in the cost of production due to tick infestation to be $91M, totalling A$322M (US$186M in 2008) in annual economic losses to the industry. Little data is available on the costs of *R. B. microplus* to other cattle regions in Australia (McLeod & Kristjanson, 1999) however, this figure fluctuates from year to year with the tick population. Ticks in Australia are caused by the blood parasite species Babesia bovis, Babesia bigemina and Rickettsia (Rhipicephalus) marginale. Calves can passively acquire resistance to babesiosis and anaplasmosis from the colostrum they receive from their mothers. The immunity from the maternal antibody lasts about 2 months, and is then followed by an innate immunity from 3 to 9 months of age. If the calves are exposed to Babesia or *Rhipicephalus* species during this time they may develop a solid, long-lasting immunity. Infected cattle that fail to become infected in the first 6 to 9 months after birth are at risk of life-threatening disease if they are infected with tick fever later in life. But, as the cattle are more resistant to babesiosis than *B. taurus* cattle and initial exposure of naïve B. indicus cattle to *B. bovis* spp. results in less severe symptoms than in B. taurus cattle breeds. No such observation has been made in the instance of *R. marginale*. Reliable immunity to tick fever-causing organisms in a herd does not always develop and producers in tick-infested areas of Australia make use of the frozen or chilled tick fever vaccines. Live, avirulent vaccines are available from Queensland Primary Industries and Fisheries (QPIF) Tick Fever Centre, and have been found to provide greater than 95% protection for the life of the animal. The prevalence of tick fever in a region is often correlated with the dynamics of the tick population, as any factor affecting the survival of the tick vectors will also affect the risk of tick fever occurring. Increased tick numbers will increase the threat of the disease occurring until a high level of population immunity is reached and conversely, reduced tick numbers will decrease the number of new infections but increase the longer term risk of babesiosi/ anaplasmosis due to the reduced natural exposure of calves.

The most widely used method for controlling cattle tick in a herd of cattle continues to be the application of chemical acaricides. Mark Christian concocted the “Queensland Dip” in 1898, containing a mixture of arsenic, tar and soda ash, in which infected cattle immersed their bodies. The dip was the first effective treatment for cattle tick infestation; it was adopted throughout Queensland and overseas, but created problems of toxicity and environmental contamination. Peracetic-resistant ticks emerged in 1937. This was to be the beginning of a long line of chemicals to which tick populations would become resistant. There are currently tick populations in Australia with resistance to chlorinated hydrocarbons, organophosphates, carbamates, amides, and synthetic pyrethroids, in addition to ticks with resistance to more than one of these chemicals such as the Ultimo strain of *B. taurus* that has been found to have resistance around 10 years for resistance to emerge to these chemicals and it is likely that with current usage, new acaricides will have limited lifespan.

The quest for an anti-tick vaccine began seriously in the 1980s at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) when researchers began injecting cattle with crude extracts of adult female ticks. The concept of vaccinating with “concealed antigens” is attributed to Galun (1975), who suggested that blood-sucking parasites could be controlled by raising antibodies in the host against molecules in the parasite such as hormones and that these antibodies would then be ingested by the parasite. It was shown that fewer ticks matured on cattle vaccinated with these “concealed tick antigens” than on control cattle, and it was observed that many of these ticks had reduced fecundity and a damaged gut. The concealed antigen that was subsequently isolated and shown to be responsible for inducing protective immunity in cattle was the gut antigen designated ‘Bm86’ (Galun et al., 1989). ‘Bm86’ is a gut antigen, was released in Australia in 1994. A similar Bm86 based vaccine, Gavac™, was later released by Cuban workers and used in several central and South American countries. While these vaccines were reported to reduce the need for acaricide treatments by up to 60%, there were also other instances of substantial variation between breeds and individuals in their ability to respond to the vaccine. The disadvantage of utilizing concealed antigens as targets for immunisation is that protective immunity is short-lived because the antigen is not presented to the host by the tickthat is, tick infestation does not boost immunological memory. Tick numbers increase to unacceptable levels on animals just ten to twelve weeks after vaccination with Bm86. And, of course, treatment and re-vaccination is therefore needed. Although, over time, a 60%-70% reduction in tick numbers in a herd may be achieved via vaccination, the introduction of infected cattle onto a property markedly reduces the efficacy of this, and the requirement for frequent re-vaccination of animals, has lead to the TickGRAD™ being removed from the market and prompted the search for a more effective tick vaccine.

It is well documented that B. indicus cattle are generally more resistant to *R. B. microplus* than B. taurus breeds, although considerable variation also occurs within breed, with European breeds exhibiting a wide range of resistance phenotypes. Several studies have demonstrated that tick resistance is heritable and the resistance status of both B. taurus and B. indicus herds can be improved by selection. CSIRO laboratories at Rockhampton began selecting for tick resistance in a herd of Hereford x Shorthorn (B. taurus) cattle in the mid-1960s, a breeding program which resulted in a breed known now as the Belmont Adaptaur. It was reported that treatments for tick infestation in B. taurus cattle with resistance levels of 99%, a level of resistance typically attained only by pure B. indicus animals.

In evolutionary terms, the Belmont Adaptaur was unique with respect to its acquisition of tick resistance, in that it has only recently been exposed to, and intensely selected for, tick resistance. Box indicates that in cattle, tick infestation is a disease induced by a specific pathogenic strain of *Boophilus microplus*, this leads to a host response (e.g., inflammation) to combat the infection. However, the host response itself can become a disease that affects the health and productivity of the animal. The host response to tick infestation involves a complex interplay of immune and inflammatory mechanisms that are triggered by the presence of the tick, and the associated antigens. The host response is characterized by the release of cytokines and chemokines, which recruit immune cells to the site of infection and activate them to destroy the tick. This process can lead to tissue damage, inflammation, and overall reduction in animal health and productivity.

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SOUTHERN BIN PROJECT UPDATE

Larnoo Field Day

A field day at Larnoo near Yea in Victoria was well attended by members. The aim of the day was to review the first year’s progeny in the Beef Information Nucleus (BIN) project. Wayne Upton presented summary information on the current weights of the progeny which are discussed below. Terence Farrell reviewed the birth weight and weaning weight information on the ten Charolais sires in the project. He said “there was considerable variation in the sires” and that “the phenotypic information matched the BREEDPLAN indices very well.” Christian Duff (SBTS) discussed the trends in BREEDPLAN recording and showed how the sire EBVs would change when the Society moved to the new cross breed EBV analysis.

Weight and scan data was collected at the end of October on the 405 progeny in the southern BIN project. The steers have grown to average 400 kgs at yearling age and the heifers reached 368 kgs. The average rib fat on the steers was 4.5 mm versus 5.7 mm on the heifers. The steers recorded 64.2 cm for their eye muscle area scans versus 62.7 cm for the heifers.

Ninety four steers will be consigned to a feedlot for a 70 day grain finishing program. The remaining 311 steers and heifers will be finished on grass. Slaughter data will be collected on all the progeny using the Meat Standards Australia grading system. The set of birth, growth and MSA data for each sire will be used to calibrate genetic marker traits to improve the accuracy of these traits on cross breeding programs. Research is scheduled to examine the difference in fat composition by degree of oil saturation. Progeny flight times and observed standing scores will be correlated to pH declines and ultimate pH to better understand the genetic effects that the different sires produce on the meat quality of their progeny.

Sires have now been selected for the final year BIN projects to be held in Queensland and New South Wales. Nineteen Charolais sires will be joined to Brahman cows within the QLD project. The progeny will be raised to feedlot entry weights, then grain fed for 80 to 100 days and processed at a nearby abattoir at target average of 550 kgs live weight. In the NSW project 200 Angus cows and 50 Charolais cows will be joined to Charolais or Angus sires. This data will be used to update hybrid vigour estimates to further improve the cross breed EBVs. The progeny of this trial will also be grain fed and slaughtered at approximately 550 kgs live weight.

The major advantage to the Charolais breed from this research is to provide slaughter data on first cross progeny from a selection of industry sires. This data along with the growth and meat quality data will be used to enhance the new cross breed EBVs. In addition to this, data will be used to predict genomic markers to assist EBVs for smaller contemporary groups. By the end of the project the Society will have recorded information on 42 Charolais sires. These sires are linked to data sets in the United States, Canada, New Zealand, England and Ireland to provide an international benchmark across the breed.

Members can link their herds directly to this data by purchasing 14 semen straws (Assuming 57 per cent success with a single AI treatment program) from any one of the sires that are being used in the BINs over the three years and using them within your own herd to form a contemporary group with the progeny from your own sires.

You will need to produce and BREEDPLAN record approximately eight progeny from your selected sire to run with the progeny of your own sires. If you allow $35 per head to inseminate your cows and $45 per head to inseminate their progeny then this data link will cost you approximately $1120. This amount assumes that you cover the cost to record weights as a part of your normal herd management. You should ensure that if any progeny from the contemporary group is slaughtered that you also collect and upload the MSA grading information to BREEDPLAN. Similarly if you carry progeny heifers through to calving then you should aim to collect all the data on her to her mature cow weight and all of her progeny to at least 12 months.

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Meat Tenderness Gene Markers

by Terence Farrell

A 2010 study by Linda Cafe and colleagues that examined the relationship between gene markers and meat tenderness has shown positive results in Brahman cattle. This study has interesting results that will be applicable to progeny from Brahman females.

Gene markers can be used to estimate a range of genetic traits in cattle production. There are four common gene markers for meat tenderness. For each of the four markers there can be three possible allele combinations: no alleles present, one or two alleles present.

Meat tenderness markers are determined by alleles which are correlated with the levels of two types of enzymes called calpain and calpastatin. Calpain enzyme activity increases protein degradation by breaking down the myofibrillar structure of muscle fibres. Calpain activity therefore reduces meat shearforce which is an indicator of tenderness. Alternatively the Calpastatin enzyme activity inhibits protein degradation so that meat does not break down with aging.

Hormonal Growth Promotants (HGP’s) have been shown to increase calpastatin enzyme activity which inhibits meat tenderness. Similarly Bos indicus cattle have been reported to exhibit greater calpastatin activity relative to Bos taurus cattle. The implication is therefore that this is the reason for higher shearforce levels in muscles from Bos indicus cattle.

In the study by Cafe and colleagues the animals were selected for the presence of 0, 1 or 2 gene markers and backgrounded at either Glen Innes in New South Wales or Brusselton in Western Australia for two calpain markers and 2 calpastatin markers. The authors found that there was no consistent effect of HPG’s on tenderness or any other quality trait in either treatment group.

The study indicates that gene marker selection for homozygous calpain alleles has positive signs and should be evaluated further in other breeds. It would also be of value to industry to examine the differences between the treatments over a period of 21 days of aging.


Ground breaking meat inspection reforms

by Gordon Collie, Agri-Prose

Australia is leading the world with ground-breaking meat inspection reforms pioneered by a Queensland family-owned enterprise, Nolan Meats.

The new Australian Export Meat Inspection System, which has just become operational, provides an internationally recognised standard for guaranteeing meat safety and integrity. The ability for meat to be certified by registered company employees has streamlined the meat inspection process and will help reduce compliance cost as processors transition to the new regime.

The key USDA market accepted the new standard in March and other importing nations including Japan and Korea have followed. Nolan Meats has won accolades for its role in leading the meat inspection reforms with trials and research conducted at the company abattoir at Gympie between 2006 and 2008.

“From October 1, we were the first company in the world exporting to the US, Japan, Korea, Indonesia and Malaysia and many other markets under the new system which we helped innovate,” said company director Terry Nolan.

“We have established new boundaries in meat inspection which will benefit all exporters,” said Mr Nolan who is just ending two terms as chairman of the Australasian Meat Industry Council. “We see the move to the new meat inspection system as simultaneously providing a stronger career path for our personnel while offering the company greater flexibility and efficiencies.

In August, Nolan Meats was awarded the 2011 Red Meat Processing Innovation Prizard by the PRMPC. In October, the company took out the Premier of Queensland Exporter of the Year Award. Nolan Meats had humble beginnings in 1958 when Pat and Marie Nolan opened a small retail butchery in Gympie. In 1964 they bought a country slaughterhouse and expanded the business to supply other butchers and begin wholesaling.

Terry Nolan said the business had transformed in recent years with the abattoir now capable of processing 2500 cattle a week. A lot of stock is drawn from their own feeder at Cinnabar, about 60km inland from Gympie which currently has about 16,000 cattle on feed.

Terry said the company was an active buyer of both feedlot and other European sire. “They perform well for us, providing lean, ground-finished meat from as far north as Rockhampton to Longreach and south to around Dubbo in NSW. The company has built its reputation supplying the domestic market with consistent quality meat from young cattle, predominantly 12 to 18 months old, which have been finished on grass for 60 to 70 days. Their target carcass weight is in the range of 200 to 280 kilos. The business branched into exports focusing on supplying international markets with beef of similar specifications and this year added Korea to a growing list of overseas destinations.

The company has a preference for buying cattle infused with Charolais or other European bloodlines. Their ideal is a three way cross from a Bos Indicus-Bos Taurus female crossed with a Charolais or other European sire. “They perform well for us, providing lean, good yielding carcasses with the consistency our customers are looking for.”

“Our number one priority is to market beef with good eating quality. We have an objective-based payment system which reflects the true worth of the animal in the markets we are targeting,” he said. Nolan Meats was an early adopter of Meat Standards Australia which provides an independent stamp of quality which underpins their premium meat brand Private Selection.

“We apply specifications which are much tighter than MSA requirements to set a really high standard for our premium quality branded meat,” Terry said.

The company does not have a big focus on grass fed product, but is planning to introduce their own new brand, Vale, early in 2012 aimed at the quality end of this market.
Previous CRC research reported that the average birth weight for progeny from Charolais sires over Brahman cows was approximately 36.5kg (Burrows, 2005). See the figure below. The CRC research which was conducted over three seasons in Queensland on 10 cattle crosses is now being used for cross breed EBV analysis. Charolais progeny were reported to be 9 per cent heavier at birth than the average of the population of progeny in the project. The researchers found that “calving difficulty was not a problem” at these higher weights when crossing Charolais over Brahman females. The other sire breeds in the project were Fergus, Belmont Red, Brahman, Charolais, Hereford, Limousin, Santa Gertrudis and Shorthorn.

The birth weight of progeny from all breeds over Brahman cows increased in the second year. The weights from some crosses including Belmont Red, Limousin and Shorthorn increased again in the third year of the study. Alternatively the weight of Charolais progeny decreased in the third year. This result would suggest that it is possible to reduce the birth weights for Charolais sired progeny by managing feed intake for heifers and cows, it also confirms an important message not to over-feed Charolais progeny in the project. The researchers found that “calving difficulty was not a problem” at these higher weights when crossing Charolais over Brahman females. The other sire breeds in the project were Fergus, Belmont Red, Brahman, Charolais, Hereford, Limousin, Santa Gertrudis and Shorthorn.

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Many seedstock producers are screening their sale animals, and many show, are requiring testing. The disease, or syndrome, has existed for a very long time within the Queensland Beef Industry and it is not surprising that many producers have been left wondering what all the fuss is about. BVDV is indeed one of the most costly individual diseases within Australia, and some argue that it is in fact the most costly. Animals exposed to the virus suffer immune suppression and/or reproductive losses. Estimates have varied from as low as $20 to as much as $50 per breeder unit in beef and dairy units harbouring the disease. BVDV losses are all about bad timing. When previously unexposed or unvaccinated animals contract BVDV from contact with a carrier animal, they almost invariably contract the disease. This can result in significant immune suppression for up to a couple of months, or foetal losses. Immune suppression can be significant if the affected animals are in the early phase of lot feeding or other stressful situations. Foetal losses can occur at any stage of pregnancy. How does the disease maintain its presence on farms? BVDV is unique in the way it assumes its own survival within management group systems. BVDV is almost exclusively transmitted by carrier animals. These carrier animals were Persistently Infected with the virus after having survived foetal infection when they were exposed via their mother during the 1st to 4th month of their gestation. They go on to birth Persistently Infected with the virus, or PI. These PI animals are responsible for future BVDV infections. If they come in contact with another uninfected animals, they infect it. The key to managing the disease is measuring the immune status of individual mobs, vaccinating those without immunity, and then screening herds annually to ensure that all PI animals are PI free and immune.

Step 1: Herd Profiling: Blood test 5% or more of mob for antibodies from each management group on the property. If they have a high level of immunity, then they do not require vaccination. If they have low immunity, then serious consideration should be given to instituting a Pestigard program. Step 2: Heifer Screening: Once the replacement heifers have been commingled and tested in close contact for at least 2 months, and are at least 8 months of age, blood test 5% or a minimum of six animals from each management group on the property. If they are highly immune, then they have likely been exposed to a PI. They do not need vaccination, however, their may be a PI amongst them. The simplest and most accurate way to test the entire mob of heifers to screen the heifer mob is to ear notch the entire group of heifers. Any PI’s found can be sold directly to slaughter.

The rest of the heifers are highly immune, and the removed PI animals would have been a low threat to them, however, they would pose an ongoing risk to other management groups, and once diagnosed, can be culled to slaughter to recap at least some of their value. Left undiagnosed, they usually begin wasting away and eventually die.

Ongoing Steps: Monitoring Screen heifers as above annually. If the program is successful, heifers should begin graduating through the system without PI exposure and hence without immunity. These animals will therefore need to be enrolled in a Pestigard vaccination program. They should be vaccinated suxice with Pestigard before joining and then receive an annual booster for the rest of their lives. Further, at calf marking, ratty or woody calves should be ear notch tested at calf marking.

Swans Veterinary Services works with vets from across the country providing lower cost solution to BVDV sampling. Swans introduced Australia to ear notch testing in 2006, allowing producers to harvest their own samples. Swans has since introduced TEGO devices allowing farmers to collect blood samples on farm as well. Swans works with producers through their veterinarians in order to help to grow awareness of this important disease.

For further information check out www.swansvet.com, contact Dr. Enoch Bergman at 0427 716 907 or your veterinarian.
Progressive cattle breeders of the West

Recognised as one of Western Australia’s more progressive cattle breeders, O M Dunnett & Co, Nannup, is a name synonymous around South West sale yards.

By Rob Francis

Kim and Kerrie Dunnet, along with Kim’s parents, Dave and Sandy, are third and fourth generation graziers in the area. The 100 year celebration of the family connection at Nannup was held about three years ago. While Kim and Kerrie are now at the forefront of the operation, they are quick to give credit to the contribution of earlier generations to the success of the family partnership. It is obvious that O M Dunnett & Co is a true family partnership with Kerrie now an integral part of the management and work force.

The land holding is divided into two properties, including land near Nannup land and country in the Scott River area, which is 65km from the home property. Charolais bulls comprise the main sire battery, with around five new sires purchased each season, preferably all being led bulls from the Brunswick Supreme sale in February.

Essential selection criteria include soft bulls with growth and large frames, with a higher EBV for fat cover to ensure the calves have sufficient cover at weaning. Feet and leg structure are closely inspected as there have been a few problems in the past.

Kim and Kerrie have shied away from big white, tight skinned specimens of the breed that have proven to be hard doing cattle in tight seasons, as they are aiming to sell 100% of their calves straight off mum as grass fed vealers.

The main benefit they have obtained by using Charolais bulls they say, has been the increased dressed weight at the point of sale of approximately 20kg in the heifer calves which is very desirable when trying to target markets that require vealers 150kg/cwt and above. They both acknowledged the contribution made by a large first cross female in the overall production, with a percentage of both Hereford and Angus cross cows in the 650 head herd.

O M Dunnett & Co is regularly called when top quality first cross heifers are knocked down at cattle sales, preferring to buy replacement breeders than retain their own. The management policy has been to run Angus and Hereford cross breeders at Nannup with the Hereford cross cows being more suited to the Nannup summer, with the Angus cross breeders enjoying the softer Scott River country during this period.

“Other European breed sires have been used in the past, but these have been dropped from the breeding programme, mainly due to temperament issues, Kim said. We were unable to spend the time needed for the more temperamental breeds to become familiar with us. This is a big plus for the Charolais sires as their placid temperament is passed on to the majority of their calves. The first draft of the current calf drop has just been trucked for sale by weight and grade, with results eagerly awaited.”

It is a case of balancing price early or weight later,” Kim said. Prices of 460c/kg live weight were on offer earlier in the season, but at moment it is showing signs of trending down. “With the current supply situation, this is hard for buyers to justify, but farmers have always had to be price takers,” Kim said with a hint of annoyance.

While the work load has slowed the plans for improvements on the properties, rotational grazing has been implemented this year. Moved every second day, cows get first pick before being followed by the maiden heifers.

Future plans include running two equal size mobs to cover existing paddocks on a shorter rotation to fully utilise this management practise. This has seen a change from single bull mating to a multiple bull situation, with a yet to be confirmed improvement in conception rates. This was instigated after one mob saw a 10% conception rate due to an undetected bull problem.

Improved handling facilities have been installed and pregnancy testing shortly will prove the anticipated conception improvement. One down side experience in running multiple bull mating’s is a higher bull breakdown level. Kim and Kerrie hope this will improve as they have noted the breakdowns were among the older bulls that had previously been paddocked and mated singularly.

The five young bulls purchased in early 2011 were paddocked together prior to mating and appear to have settled pecking order early, before joining the cows.

Kim and Kerrie were quick to point out the benefit they have received in being involved in the Department Of Agriculture, ‘Beef Profit Partnership’, giving them a clear understanding of their cost of producing the calves. Fertiliser is spread according to soil test results, with Spring burst used in hay production.

The future of O M Dunnett looks to be in capable hands with Kim and Kerrie’s son Jaymon showing early signs that he is keen to take the family partnership to the fifth generation.
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The Queensland Region of the Charolais Society of Australia sincerely thank all the sponsors who made this event such a success:

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The European beef industry is likely to go through a series of reforms that are associated with decreased payments for milk and dairy production which will reduce beef production and may increase beef imports according to Jean-Francois Hocquette and Vincent Chatellier.

In their research paper that was published in Animal Frontiers (2011) they state that average European beef consumption was 16 kgs per head and that currently promotes beef and dairy production may be determined by greenhouse gas emissions, particularly methane production. Improving animal welfare includes monitoring animals for traits such as their ecological footprint. The ecological footprint is determined by greenhouse gas emissions, particularly methane production, net energetic balance (run-off) and feed use. Payments that currently promote beef and dairy production may be reallocated to assist farmers with environmental emissions and animal welfare measures.

Changes in the European Community’s agricultural policies include reducing the direct payments to producers for beef production. Payments are being decoupled from specific commodities which mean that producers will move into more profitable industries such as pork or chicken. Some of the resistance arises from countries that supply a high proportion of meat that is sold whole. Environmental management and consumer perceptions on animal welfare will mean that some producers will be forced in to more profitable industries such as pork or chicken. This provides an opportunity for exporters in other countries that rely on pasture based production systems.

New environmental services payments are being considered in Europe in the event that tariffs and other measures are reduced. The Doha round has not been finalised and it does not appear that it will be anytime soon. These interventions may be introduced to assist farmers with their transition to a market economy for commodities.

Consumers in Europe have strong feelings regarding animal welfare. “Citizens believe that herbivores should eat grass, which is a natural and cheap product available in pastures. This is the natural way to preserve animal welfare as well as to protect the environment” (Hocquette and Chatellier, 2011). More recently they are concerned that animals should not eat food (grain) that is suitable for humans.

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Animal research in Europe is focused on molecular aspects of physiological functions (digestive function, growth or reproduction).
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<tr>
<td><strong>MEN’S VEST</strong></td>
<td>Navy with embroidered Charolais Logo</td>
<td>S to XXXL</td>
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<td><strong>LADIES VEST</strong></td>
<td>Navy with embroidered Charolais Logo</td>
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<td>100% Polyester. Lightweight Micro Fleece, low pill. Concealed pockets.</td>
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<td><strong>LADIES ZIP JACKET</strong></td>
<td>100% Polyester. Lightweight Micro Fleece, low pill. Concealed pockets.</td>
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<td><strong>ADULTS SPRAY JACKET</strong></td>
<td>100% Polyester. Water resistant. Pull out hood that folds away under collar.</td>
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<td>100% Polyester. Water resistant. Pull out hood that folds away under collar.</td>
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<td><strong>MEN’S POLO SHIRT</strong></td>
<td>Navy /White/ Sky Blue Stripe, Rugby Jersey</td>
<td>S to XXXL</td>
<td>$40.00</td>
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<td><strong>LADIES POLO SHIRT</strong></td>
<td>Navy /White/ Sky Blue Stripe, Rugby Jersey</td>
<td>8 to XXXL</td>
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<tr>
<td><strong>TIE</strong></td>
<td>Woven silk tie with navy &amp; yellow stripes with Charolais logo watermarked</td>
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<tr>
<td><strong>LADIES SCARF</strong></td>
<td>100% silk. Navy &amp; yellow stripes with Charolais logo watermarked.</td>
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<td><strong>BUCKET HAT</strong></td>
<td>Navy with white trim around brim &amp; embroidered Charolais logo</td>
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<td><strong>PEAK CAP</strong></td>
<td>Navy cap with white brim &amp; embroidered Charolais logo</td>
<td>One Size Fits All (adjustable strap)</td>
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<td><strong>LEATHER COMPENDIUM</strong></td>
<td>Designed to fit documents in the sleeve section along with pen, cards and envelopes on the outside, as well as an A4 pad (supplied).</td>
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<td>Maroon or Blue metal pen engraved with “Charolais Australia <a href="http://www.charolais.com.au/%E2%80%9D">www.charolais.com.au/”</a></td>
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