

Crossbreeding with Angus in Northern Australia



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Are you a producer ready to increase the value of calf weaned per cow mated? A strength of Angus bulls is that they offer a combined package of fertility, growth rate and carcass attributes. They have proven performance in increasing the profitability of northern Australian beef operations, when used in a breeding program appropriate to the regional environment and targeted market(s). This brochure outlines why demand for quality Angus bulls has been increasing.

Improved Market Performance

The north Australian beef industry is very diverse. It supplies live export to grass finished Jap Ox and Korean type (heavy weight carcasses) to domestic carcasses, most with the potential overlay of Meat Standards Australia (MSA) criteria. Similarly, the environmental constraints of northern Australia vary from very harsh with extreme external / internal parasite burdens and many stressors to the more sub-tropical much less extreme conditions of central and southern parts of the north. Angus-cross cattle are well suited to the less extreme seasonal conditions where the marketing system values higher quality carcasses processed in Australian abattoirs.

Good quality Angus and Angus cross cattle can obtain premiums for a number of domestic and export markets. The powerful growth rates, moderate maturity pattern, good muscling and superior marbling performance of most modern Angus cattle results in tremendous market flexibility. This is a major advantage in the modern beef industry where market fluctuations and extreme variations in seasonal conditions are a normal part of the industry.

Angus are preferred by lot feeders targeting the high quality Japanese & Korean markets because of their excellent growth and marbling performance. Angus cross cattle have the ability to grow out to heavy export weights, with desirable fat cover. They also have the ability to finish at lighter weights suitable for a range of domestic markets.

Premiums for MSA- graded beef are now being gained in many domestic markets. The actual premium will vary depending on state and plant, but according to MLA has been averaging 10c/ kg. Two examples of abattoirs in northern Australia that have been paying premiums for carcasses that grade MSA are Teys, Biloela and JBS Swift, Townsville.

Significant increases in eating quality, leading to premiums or greater demand for products, has been achieved from carcasses with higher marble scores at an earlier age for the domestic market. Infusion of Angus genetics is a proven method of achieving increased marbling performance and meat quality.



Fertility with excellent re-breeding, mothering, longevity, milking and easy calving are all attributes Angus can bring to northern herds.

Improved Breeding Herd Performance

Producers who retain Angus cross females in their herds benefit from the high fertility of Angus. Angus cross heifers reach sexual maturity at a younger age than most other breeds and crosses, and achieve high pregnancy rates even after yearling joining. Reports of pregnancy rates in excess of 90% among



Santa Gertrudis X Angus females with calves at foot, Currum Station, Julia Creek. These females have proven to be very adaptable



An Angus infusion creates feedlot acceptance. Angus X Santa Gertrudis bullocks

Angus cross heifers in northern Australia are common.

Moderate sized Angus cross females have demonstrated excellent re-breeding performance, even under difficult seasonal conditions. In particular, first-cross Angus X Brahman and Angus X Santa Gertrudis females have proven to be excellent mothers with good milking ability and good longevity. They are easy calving, easy care cattle with low maintenance requirements.

Benefits of Polled Cattle

Angus bulls are an easy way to remove horns. Benefits of having genetically polled cattle include less growth loss from dehorning, time saved at branding, polled breeders and reduced bruising. The pressure animal welfare groups place on farming practices is increasing. It is likely that the value of genetically polled cattle will rise.

Using Angus in Structured Crossbreeding Programs

Angus bulls are being crossed with Brahman, Santa Gertrudis and other adapted breeds in rotational or terminal crossbreeding programs. Crossbreeding between *Bos taurus* and *Bos indicus* breeds provides maximum potential for increasing productivity through hybrid vigour. Hybrid vigour is the difference between the crossbred animal performance and the average performance of the parent breeds. The greater the difference in parent breeds the greater the gains can be. For example, in Australian crossbreeding research hybrid vigour for growth of British X *Bos indicus* cattle has been calculated at 16 per cent, compared with 4 per cent for *Bos indicus* X *Bos indicus* breeds. British X *Bos indicus* cows generated around an additional 13 per cent weight gain from maternal hybrid vigour and expressed hybrid vigour of around 20 per cent for longevity and ten per cent for fertility. The exception is carcass quality traits such as marbling. These traits show a low hybrid vigour response for crosses of all breeds. The improved carcass quality performance of Angus cross cattle can be attributed to breed effect alone.

Other benefits of crossbreeding with Angus bulls include colour uniformity.

In environments where a higher proportion of tropical adaptation is required, a degree of Angus infusion can be achieved through the use of Angus cross bulls (e.g. Angus X Brahman or Angus X Senepol).

Using Angus in Composite Breed Development

Several large pastoral companies and family operations in the northern cattle industry have incorporated black and/or red Angus genetics in their composite breeding programs. Where large herds are managed under extensive conditions, tropically adapted composite programs can be a useful option as they can achieve many of the benefits of combining different breeds without the extra management requirements associated with structured crossbreeding programs.

Results from the CRC Northern Crossbreeding trials demonstrate Angus benefits

The Beef Cooperative Research Centre (CRC) conducted a large crossbreeding trial in central Queensland where bulls from eight breeds were joined to Brahman cows. Calves were grown out on grass and in feedlots for different market endpoints. The results show that Angus cross calves were lightest at birth and had similar growth performance and carcass weights to European crosses. They were easier to finish, with good muscling, more marbling and high eating quality.

Marbling for Eating Quality and Feedlot Demand

It is widely accepted that marbling improves eating quality through juiciness, flavour and tenderness. Angus sires produced progeny with the highest marbling.

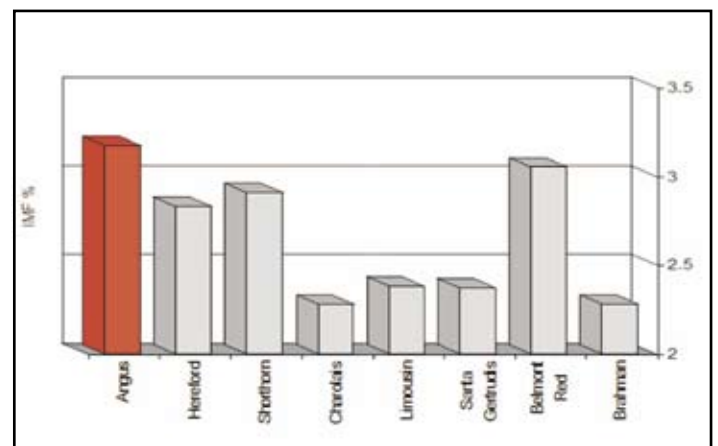


Figure 1 – Angus progeny had the highest levels of intramuscular fat percentage demonstrating why feedlot demand for Angus and Angus cross steers continues for the grain fed Japanese and Korean markets.

Rump Fat

It is important to be aware of the ability of different genetics to lay down fat. All prime markets have requirements for fat. European crossbreds were significantly leaner than the tropically adapted crossbreds, which were significantly leaner than the British crossbreds. Angus-sired progeny had the most subcutaneous fat cover.

Carcase Weight

Payment calculation is still based on carcass weight. It is therefore important to consider the ability of a breed to meet requirements for this trait. However if other specifications for your target market are not met by your stock there can be significant price penalties that can easily counteract the weight benefit.

Angus excelled with the third highest carcass weights. Charolais was the highest followed by Angus and Hereford, which were almost equal. The high Angus carcass weights has been attributed to years of selection for growth using Angus Group BREEDPLAN 600 Day Weight Estimated Breeding Values (EBVs).

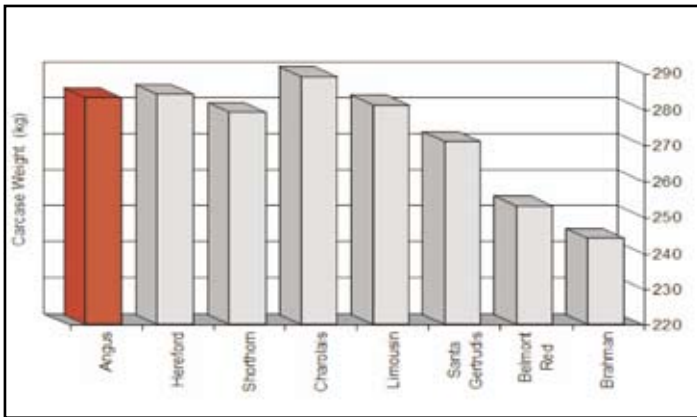


Figure 2 – Charolais sired progeny had the highest carcass weights followed by Herefords and Angus.

Tenderness

The beef from Angus progeny was the most tender based on Shear Force testing of the carcasses.

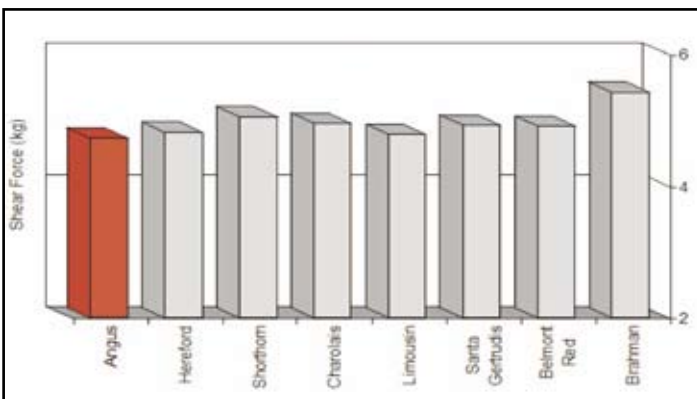


Figure 3 – The meat from Angus progeny was the most tender

MSA Consumer Eating Quality Scores

Consumers ranked beef for tenderness, juiciness, flavour and overall acceptability which are combined to give a Meat Quality

What Do Northern Cattle Producers Say About Angus?

Lawson Geddes, Couti Outi, Kunwarara, QLD

“In this country, I need Brahman content in my cattle. The Angus content allows me to turn off grass finished bullocks at younger ages with good meat quality. The fertility and milking ability of the Angus cross cows is important and shows in the calves.”

Alister McClymont, Burleigh Station, Richmond, QLD

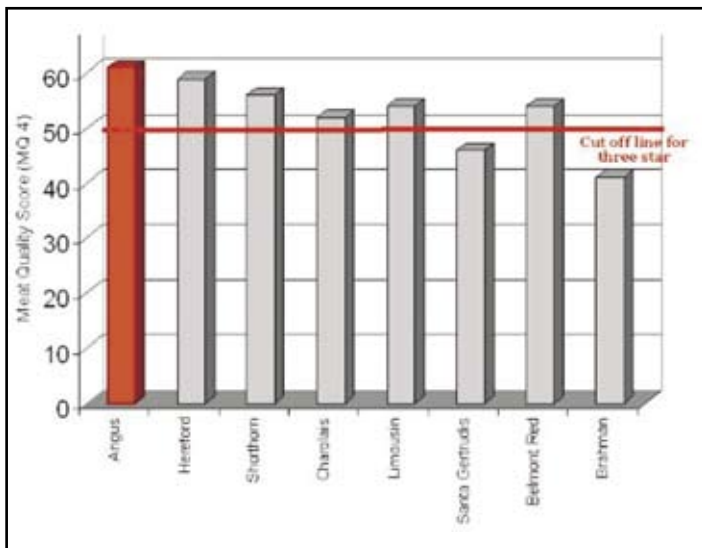
“We have been using Angus bulls since 1985 to breed Angus X Brahman bulls for our seven properties which run from the Gulf to Richmond. Angus are used for their earlier finishing ability and therefore greater marketing flexibility. The Angus crossbred progeny also sell at higher prices. The females are more fertile and calve earlier. We only select bulls for the breeding unit that have EBVs. Following hosting a trial to field test the value of EBVs we are confident that bulls with high EBVs will give better performing progeny than those with lower EBVs. As a result we only buy bulls with high EBVs”

Steven Hagan, Headingly Station, AA Co, Urandangie, QLD

“During the 1990s Angus bulls were introduced to improve meat quality. Angus sires are being used over Santa Gertrudis cows and most of the steers end up as AA Co’s premium brand 1824. We get 20 cents/kilo more for our Angus sired steers than for the straight Santas, so the Angus infusion has assisted Headingly to improve the bottom line. But that’s not where the benefits end. The Angus bulls achieve pregnancy rates of 80 to 85 % which is about 5 % higher than the other bulls used.”

Grant Brooks, Limestone Station, Marble Bar, WA

“We run Angus cattle in a rangeland environment 300 km north of the Tropic of Capricorn. We use Angus bulls to increase carcass quality and weight. To do this we put in around 40 yearling bulls annually from our bull breeding herd. They settle in very well and the Angus cattle perform great in this environment. Our main market is young bulls at 220-280 kg for the live export trade and the Angus heifers are retained and rejoined to Angus bulls. Most people think Angus won’t survive in the heat but they just don’t realise how much yield they are missing out on by not using Angus”.



(MQ4) Score. Under the MSA grading scheme good everyday (3 Star) beef must have a minimum MQ4 score of 48. The Angus cross had the highest average MQ4 score of 61. Animals with high *Bos indicus* content fell below the MSA 3 star cut-off point.

Acknowledgments: Don Nicol, Breedlink Pty Ltd, John Bertram, Senior Beef Extension Officer, Department of Primary Industries and Fisheries

Buying Angus Bulls

When buying an Angus bull ensure that the bull has well documented pedigree and performance information. Most vendors provide EBVs on their bulls to assist buyers with their purchase decisions. Performance recording has been carried out in the Angus breed for many years. This combined with the high use of Artificial Insemination and Embryo Transfer means that accuracy of the Angus EBVs is greater than most other breeds.

Animals with sleek coats and fine hair have greater heat tolerance and lower tick burdens and therefore can perform better.



Angus Australia registers both red and black Angus. EBVs of reds registered with Angus Australia can be compared directly with black Angus



Angus bulls take off the horns while introducing fertility and MSA eligibility with superior eating quality

For further information on Angus cattle, contact:
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