

Angus Proves Resilient in Desert Environments

Jen Peart, Northern Extension Officer

“Tieyon”, owned and managed by Paul and Jo Smith and their children, is located in the Finke region on the Northern Territory – South Australian border and has been in the Smith family for over 100 years.



Encompassing 6,562km² (roughly 1.6 million acres), “Tieyon” consists of a variety of land types; mulga country, breakaway country (flat topped hills), low tablelands, sand ridges arising from the Pedirka Desert and some channel country. There are 180 recorded edible plant species in the landscape at “Tieyon”, ranging from herbages and grasses such as Kerosene grass, Woolly Oats grass and Barley Mitchell grass, to browse such as mulga.

Angus were introduced to “Tieyon” in 1925, where Paul’s great-grandfather took delivery of a cattle-wagon load of Angus bulls freighted in on the old Ghan railway line to the nearest siding to “Tieyon”, Abminga.

In the present day, the Smith family operate a breeding and fattening enterprise on “Tieyon”, running approximately 6,000 head. Ideally running 2,000 self-replacing pure-bred Angus breeders on the lighter half of the property, the steer progeny are weaned to the heavier, more productive portion of the property during two rounds of mustering a year, and fattened to 550-600kg lwt at 4 years of age. The steers are then sold direct-to-works in South Australia or Victoria, some 1,600km and 1,900km away, respectively.

Efficiency and Fertility

Due to the challenging conditions, Paul and Jo put considerable emphasis on the fertility of their breeder herd, aiming to breed an efficient female that calves every year from two-years old.

“We set out to try and breed an Angus cow to match our tough, arid environment. Our parameters are an early maturing, medium frame cow with the ability to lay down fat as soon as there is excess energy available,” explains Paul. “This is combined with management strategies to consistently early wean and give the cow three to four months to regain condition and store energy ready for the next calf,” he says.

“We would much rather a smaller cow that gives you a calf every year rather than a bigger cow that fails to calve every third year,” says Paul. “We live, thrive and survive on our females”.

Making progress through genetic gain is a priority for the Smiths, who aim to keep generation intervals low by

joining as yearlings, culling any animals that are preg-tested empty or fail to raise a calf and culling females for age between 8 and 10 years-old. As a result, approximately 50% of weaner heifers are selected via visual assessment as replacements each year.

Joining weight and body condition score is critical for yearling heifer mating success on “Tieyon” and has been well established via a research project conducted in conjunction with the Northern Territory Department of Primary Industries. A minimum of 288kg lwt is vital for acceptable PTIC rates in heifers, which in a typical year at “Tieyon” is between 83-85% PTIC. However, Paul identifies rebreeding as the issues, with just 15-20% of the lighter heifers coming back in calf the following year.

“If we can raise initial conception weight to 300kg and maintain a body condition score of 3, approximately 50% will get in calf the second time. If that weight is 350kg as a yearling, rebreed rates are comparable to initial PTIC rates of approximately 80%,” explains Paul.

Consequently, Paul and Jo take a conservative approach to stocking rates, running approximately 60-100 cows plus followers per watering point in contrast to the 200 cows that is relatively standard in the area. To bolster preg-testing rates and garner a greater likelihood of better rebreed rates, the weaner heifers are run in the heavier fattening country for six months post weaning until they are joined as yearlings.

Those females that aren’t selected as replacements are sold into the southern weaner market and perform well, with Paul receiving feedback that heifers purchased by a producer near Dubbo, New South Wales, achieved 100% PTIC rates from the “Tieyon” heifers.

The bulls are run year-round with the breeding herd at a ratio of 2% and, although not deliberate, the majority of the cows follow a late spring calving that is influenced by rainfall patterns.

Bulls are sourced mostly from South Australian seedstock operations from a convenience point of view, purchased in February and relocated in March. The Smiths feel that this gives any introduced bulls the opportunity to acclimatise.



“They have the capacity to handle the heat, but they need the time to change and adapt,” says Paul. “We tend to rotate our bulls through our land types. We run the new bulls in our established breeder country and older bulls get taken into the harder land types before they are culled for age at 7 years old,” he explains.

“We make concerted effort not to get our animals hot as they can’t cover as much country as Brahmans,” he adds.

Paul reports that he sees very few breakdowns in his bull team.

“One of the first things people complain about is breakdowns, but I just don’t see the breakdowns that others do, I don’t know if that is due to our selection or our management. We do get occasional injuries from fighting and occasionally during transit,” Paul says.

Strict Selection

Bull selection at “Tieyon” adheres to a strict Estimated Breeding Values (EBV) criteria that was established in 2003 as a product of a benchmarking program the Smiths participated in. The criteria aims to service the clear breeding objective they have set.

This EBV criteria ideally includes a breed average birth weight and up to a maximum of +6.5kg. Growth is also closely considered, with selection for a growth curve that achieves early maturity and aims to avoid overly large framed cows that require more maintenance. As such, breed average for 400 and 600 day weights and Mature Cow Weight are considered and up to a maximum of +20kg, +15kg and +10kg above bred average, for each trait respectively.

Paul and Jo approach Milk EBVs with caution, only selecting breed average or below.

“Angus are a dual purpose breed that provide plenty of milk. Trying to fuel high milk genetics just with native grasses comes at a big cost,” says Paul.

The ability to store and conserve energy is also a crucial attribute at “Tieyon”. The Smiths consider the selection for positive Rib and Rump fat as well as good temperament as the key.

“Due to the high variability in both feed quality and quantity every year, fat is stored energy that can be drawn on later in the season. The bulls we select must have positive EBVs for both rib and rump fat, the more positive the better,” says Paul. “Also naturally quiet cattle conserve energy and gain more condition which they are then able to maintain when handled during the musters,” he says.

Other traits such as Gestation Length, Calving Ease Daughters, Scrotal Size and Carcase Weight are still desirable but are considered secondary to the priority traits outlined.

A bull’s structure plays a vital role in selection and due to the relatively harsh environment, foot structure and an animal’s ability to walk are crucial. Also, a short smooth coat is preferred as summer temperatures can easily reach 40-45 degrees and sometimes higher.

Docility is also not negotiable.

“A poor tempered cow can give you one calf a year, whereas the bull is giving you 50,” says Paul. “From a workplace health and safety standpoint, we are running large numbers with only a small workforce and there is also production factors to consider. A quiet cow will retain energy and therefore more weight when being handled,” he adds.

Paul believes that by selecting on this criteria that their cattle are more consistent, fatter and healthier.

The Smiths use trap yards around watering points to conduct mustering and drafting and although very effective, a clean muster isn’t always possible. As a result Paul estimates that 10% of calves are sired by “Tieyon” bred mickey bulls. Paul says that there isn’t much more he can do to address this

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occurrence and chooses to breed the best animals possible to mitigate any negative impact.

Paul plans to pursue a contract breeding program for bulls to suit their selection criteria, environment and program in the future.

The "Tieyon" Experience


Paul has experienced some limitations and changes within his production system that he feels are worth mentioning.

"If you are going to use Angus; enjoy the fertility, enjoy the market acceptance, enjoy the carcass quality, but it is easy to find yourself overstocked as you reduce breeder mortality and non-productive passengers as fertility improves. You also have to become accustomed to a greater percentage of your sales being female," he explains.

He also has some seasonal issues with pink-eye which he estimates can affect 10% of the herd in an average year and up to 60% of their weaners in a bad year. He has found that the instances of pink-eye is reduced when using mineral supplements.

Overall, Paul is relatively pleased with the progress of the "Tieyon" herd's fertility performance, but views the next priority as putting more focus on weight gain.

TIEYON



Location
Northern Territory -
South Australian border

Land Size
6,562km² (1.6 mil acres)

Land type
Mixed

Annual Rainfall
215mm/annum

"The way our herd has bounced back from the 2019 drought destocking is hugely telling. We will continue to focus on number of calves on the ground and the number of kilograms on a truck," he says.

For more information on the heifer fertility trial conducted at "Tieyon" in conjunction with the Northern Territory DPI, please access the report entitled 'Central Australian Heifer Research and Demonstration Project: Tieyon Station' via the Northern Territory DPI website.



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