



# Science Powering Progress at Storth Oaks

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**B**ased in heartland New Zealand, Tim and Kelly Brittain look globally as they strive to improve the productivity, profitability and eating quality of Angus beef.

In their Storth Oaks stud near Otorohanga, the couple uses every scientifically proven tool at their disposal and source genetics from USA, Australia and New Zealand to produce a genetic package that will benefit their commercial clients, the beef industry and ultimately, consumers.

While Tim's name is synonymous with the Angus breed – past Chairman of AngusPRO and long-time chair of beef brand AngusPure NZ, as well as Secretary General of the World Angus Secretariat – it's back home on his stud that he can apply his philosophies around profitable, top-quality beef production by driving genetic progress.

The Storth Oaks stud began in 1991 when Tim bought 37 recorded Angus cows at a stud dispersal sale near Te Kuiti.



He was immediately struck by the potential to incrementally improve the herd through genetic selection.

"I was captured by recording systems that allowed us to see progress over a number of years. That's what's exciting about stud breeding. It's pretty cool," says Tim.

While Tim admits he got off to a standing start when it came to using scientific principles and technologies, he and Kelly have embraced both as they continually progress their genetics to meet the needs of their clients and the market.

"It's important to be moving forward and we've been quick to uptake any new breeding technologies and developments in animal breeding."

Over the years this has included artificial insemination (AI), embryo transplants, genomics and DNA testing using HD50K, the technology that forms the basis of single-step BREEDPLAN analysis.

Single step evaluation uses genomic information more efficiently as it processes all genotype, pedigree, performance and progeny data simultaneously, improving the accuracy of Estimated Breeding Values (EBVs). In essence, this gives commercial breeders even greater assurance that animals will perform in line with their EBVs.

The Storth Oaks herd is made up of 300-320 cows, including first-calvers, and these are run alongside 300 commercial ewes on the Brittain's 386 ha hill country farm. The ewes, which are all put to a terminal sire, are primarily used for weed control. While Tim and Kelly finish surplus heifers and some bulls to protect their biosecurity, the couple runs a closed herd with no commercial cattle or imported bulls on the property.

Within the stud, Tim, Kelly and the Storth Oaks team measure everything it's possible to measure, and say they are completely transparent with their data.

"We publish everything, we are not selective at all about what we put in our catalogues, it's all there."

This includes EBVs, indexes and structural assessments.

### TECHNOLOGIES TO DRIVE COW PROFITABILITY

Of all the technologies they have adopted, Tim says AI has been the biggest game-changer.

It has given them the ability to source the best genetics available from the USA, Australia and New Zealand, and it has also given them the opportunity to be ruthless when it comes to selecting for fertility.











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They don't use any bulls at all, and any cows or heifers that fail to get in calf after two rounds of AI are culled from the herd and finished on the property.

The result is a highly fertile herd and Tim says they have clients who are scanning close to 100% in their mixed-age herds.

In 2015, the Brittains started DNA testing their entire calf crop – even dead calves – using HD50K and three years later they began using the single-step BREEDPLAN analysis.

To help put their breeding programme together, the couple use the Total Genetics Resource Management tool which is described as the most advanced mate selection service available in the world.

Used in other livestock industries, this tool is not commonly used by cattle breeders in New Zealand, but it gives Tim and Kelly the ability to go global in their search for genetics that will help maximise their genetic gain.

Tim says fertility has always been their number one focus and this underpins docility, structure, ease of calving, growth rates and elite carcase performance which includes yield and intra-muscular fat (IMF). The latter being critical for premium quality beef programmes.

They also record annual mature cow weights, cow hip height and body condition scores.

Ultimately, it is about increasing the profitability of their clients' breeding cow herds and making breeding cows a viable option for commercial farmers.

Tim says land in NZ is under pressure from multiple land-use options, and this, in particular, has put pressure on sheep and beef farmers.

"Beef cows have a vital role to play, but they need to be more profitable."

Cow efficiency is part of this drive to increase profitability and

Tim says as breeders, they need to monitor cow size and breed medium size cows that hold their body condition which is why they have been collecting this data for some years.

Tim says one of the many advantages of being part of Angus Australia through AngusPRO, is the access the group gets to EBVs for additional traits, including body condition score. Tim believes this EBV will be a game changer for hill country farmers.

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### **WORKING AT THE COALFACE**

The day-to-day operation of Storth Oaks is primarily looked after by long-time farm manager Bruce Walker and Kelly.

Tim says while the King Country offers a great climate, the farm's light volcanic soils are a good test for the cattle's feet and the soils also require rain every 10-14 days to keep the grass growing.

Because all the cows and heifers are mated through AI, the calving pattern is very tight, over 45 days, which means it is all hands-on deck recording birthweights and DNA testing.

The calves are yard weaned in February – held in the yards for 5-7 days and fed baleage and straw. This aids rumen development to help maximise rumen efficiency.

The calves are then divided by sex so run as two single-sex mobs over winter and break-fed grass. They stay in their mobs until their 400-day observations as this allows Tim and Kelly to see how individuals perform under pressure.

At 400 days, each animal is scanned to measure IMF, eye muscle area (EMA) and rib and rump fat.

After 400 days, bulls are drafted into two mobs based on age. This keeps their EBVs as accurate as they can be and at 600 days the mobs are split in half again, with four mobs of bulls going forward for sale. Bulls not selected for the on-farm sale are often





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sold to dairy farmers or killed, and the non-replacement heifers are finished and sold into premium beef programmes such as AngusPure and Silver Fern Farm's eating quality programmes.

Tim says the bulls ear-marked for sale go through a comprehensive selection process, which includes service performance testing, a structural assessment by Bill Austin and a BVD test.

### **BULL SALES**

Between 75 and 90 bulls are offered up at Storth Oaks annual on-farm bull sale in early June and this year they will host their twenty-first on-farm sale with around 80 bulls going under the hammer.

Held within their purpose-built sales complex, the sale promises to be a great day out, complete with entertainment and barbequed brisket complementing the line-up of bulls.

To help clients select the right bulls for their particular breeding objectives, the Storth Oaks catalogue includes the AngusPRO Index (\$PRO), which is designed for NZ farming systems.

"It is based on a self-replacing herd, but carcass and eating quality are also included in the selection so it is a great place to start," says Tim.

He believes indexes are an important tool as they assign a monetary value to the genetic package and help buyers avoid single-trait selection.

"They are like an EBV for profit."

Where commercial breeders do want to focus on a particular trait, they can sort cattle with the index and then address an individual trait to make sure it will give them the progress they need.

Tim says their clients are typically commercial farmers who are interested in performance recording and the use of technology and they appreciate what Storth Oaks is doing to speed genetic improvement and increase the accuracy of their EBVs.

"We attract the type of farmer, often large-scale operators, who are conscious of where technology can take them to improve the productivity and profitability of their breeding cow herds."





Tim says their bulls have proven to be adaptable and are performing in a range of environments and farming systems from Central Otago and the South Island high country through to Kaitia in the far north.

Storth Oaks offers a three-year guarantee on their bulls (barring accident or injury) and will deliver throughout the country. They deliver bulls to their North Island buyers personally.

"We want to stand behind our product and we will follow the genetics through to ensure they are working for people."

The couple has steered clear of holding a yearling bull sale.

"We believe it is best to focus on the R2 sale and do a really good job at it rather than risk selling bulls as yearlings that aren't grown out to their full potential."

### USING DATA TO DRIVE PROFITABILITY

The farm team collects a lot of data throughout the year and again technology plays an important role. They use a Gallagher

TSI which is linked to the load bars on their scales and scanners are used in the farm's covered Prattley cattle yards. All the data is managed through Stockbook and fed through to Angus Australia for evaluations.

Tim says Angus Australia carries out evaluations every fortnight, so they get the information back very quickly.

But it is Tim and Kelly's ability to use this data in their breeding programme for the benefit of their clients that really excites the couple.

"We are seeing our customers get close to 100% in-calf rates, never having to pull a calf and selling steers that are attracting premiums of up to \$10,000 per unit load and that's pretty satisfying," says Tim.

He says some commercial breeders using Storth Oaks genetics have been incentivised to finish cattle they might have otherwise sold store in order to realise their genetic potential and capture market premiums.