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AUSTRALIA
 Breeding better Australian herds

Three-way crosses deliver for Tim

Size matters to vet turned dairy farmer Tim Humphris – but so does fertility, vigour and converting pasture to milk.

That's why he turned to a three-way cross breeding program when he started farming in northern Victoria and has continued the system since he and wife Marie moved to Nirranda South in south-west Victoria five years ago.

"In my opinion, a three-way cross animal is a highly robust fertile animal that may fit many farming systems," he said.

Tim recently featured in a Genetics Australia video for distributors and wholesalers of GENEX and ALTA product in Argentina, complete with Spanish translation.

During his 15-year career as a vet working in dairy practice in northern Victoria, Tim noticed a decline in dairy fertility, particularly in Holstein herds.

"When I started farming in 2008 in Northern Victoria, I had a very strong focus on fertility so used a three-way cross breeding program to maximise hybrid vigour to improve fertility," he said.

It worked and he used the same concept after moving south on a 414ha property that has grown from 300 to 600 cows over the past five years.

The farm relies predominantly on pasture which grows from April-May through to November-December. For lactations to follow pasture availability all cows are calved in April-May.

The farm can get very wet and the cows sometimes walk up to 6 km to graze, so Tim wants a moderate size cow, smaller than the current Holstein.

The cows consume about three tonnes of pasture, one tonne of conserved fodder and two tonnes of concentrate (wheat, barley and corn). Heifers are joined at about 330 kg, however with three-way cross breeding and the different sizes of the breeds there is some variability about this joining weight.

Tim's main focus is to convert all home-grown pasture to milk as efficiently as possible with the focus on total farm production, not per cow. "We aim to maximise our conversion of pasture to milk, then add in supplements if it is profitable to do so," he said. "Pasture utilisation is our main profit driver."

The cows produce about 7,000 litres and 550 kg milk solids (4.3% fat, 3.6% protein), suiting the payment system based on fat and protein, not litres.

In the 1990s, Tim learnt about three-way cross breeding from Professor Les Hansen to ensure heterosis is above 84%. "I was always convinced that a cross bred cow had higher fertility than a Holstein," he said. "The program made a lot of sense so I implemented it to improve fertility, using Holstein, Jersey and Aussie Red."

The three-way cross program maintains heterosis above 84%. A two-way cross program delivers 100% heterosis to start with but immediately drops back to 50%.

Tim uses Aussie Reds for their proven fertility, Holsteins for their outstanding production and Jerseys for their components, size and feed conversion efficiency. He has avoided other breeds such as Brown Swiss and Mont Belliarde as they tend to be larger cows and due to his concern about eye cancers in Mont Belliardes.

To maximise the hybrid vigour, Tims says it is imperative that the correct breed of sire is used over each cow.

"The key to a successful three-way cross program is no different to any other breeding program," he said. "I aim to use the best bulls in each breed and use the BPI system to select my bulls."

In each breed he focuses on particular traits. "My Holstein bulls must always be of the highest BPI but also above 110 for daughter fertility. My Jersey sires need to be of the highest BPI but positive for udder department. My Aussie Red bulls must be the highest BPI and ideally have strong production traits."

All animals are tagged with a colour tag that represents the sire they need to be joined to for life.

Tim uses Datamars automatic heat detection collars and has found them excellent for reproductive management. He joins to natural heats and doesn't use any synchronisation. "To thrive in my system, a cow must cycle and conceive quickly in the joining program without any help," he said.

Despite his success, Tim still sees a bias against cross breeding due to a variability initially in the animals and possibly a perceived complexity in maintain the breeding program...but it's working for him.

He has some advice for anyone considering the system. "If you are going to implement a three-way cross breeding program, always use the best bulls for each breed just as you would with a conventional breeding program. Once you have identified your breeding goals stick to them and be consistent."