

Crossbreeding key to profits

Report Prepared by Claire Allen, Farm Weekly, WA.

CROSSBREEDING is the first commandment of commercial beef cattle breeding and it will guarantee bottom line improvements, American Simmental Association performance program director Dr Wade Shafer said at last week's Bonnydale Black Bonanza field day in Bridgetown.

Dr Shafer was a guest of the Bonnydale stud principals the Introvigne family who promoted the new Black Simmental genetics they have introduced into Australia.

Dr Shafer said crossbreeding has an important role in the industry despite the small numbers of producers embracing the concept.



Catching up at the Bonnydale Black Bonanza field day in Bridgetown last week was guest speaker and American Simmental Association Director of Performance Programs Dr Wade Shafer (left), Minnesota, USA, Australian Simmental breed pioneer Dick Vincent, De Grey Park, Capel, Simmental Australia chief executive officer Peter Speers, who was also a guest speaker, and Bonnydale stud principals Mike and Rob Introvigne, Bridgetown.

They are pictured in front of ET drop pure Black Simmental calves. The Bonnydale stud has introduced the new genetics to Australia.

“I’m hardly going out on a limb when I say that crossbreeding is the one factor that will consistently improve profitability,” he said.

“There’s plenty of research which has been conducted in the US, Australia and Europe that provides evidence that crossbreeding cattle makes producers more money.”

Dr Shafer said hybrid vigour, the phenomenon where crossbred animals experience a boost in production and reproduction over their straightbred counterparts, is one benefit.

Maximum hybrid vigour occurs when two unrelated breeds are crossed.

“The second benefit is complementarity – the phenomenon of mating strengths to weaknesses,” Dr Shafer said. “Although you can do that within a breed you don’t have the range in genetic value to work with that you have when you crossbreed.

“When you crossbreed, you essentially have the entire gene pool across the entire population of beef cattle, and dairy if you so choose, available for more genetic reach.

“Therefore complementarity can be just as important as hybrid vigour because you are not narrowing the gene pool when you’re willing to crossbreed.”

Dr Shafer also explained that when producers have highly crossbred calves from highly crossbred dams they can achieve a boost of about 20pc in production.

“That’s 20pc extra in production compared to purebred calves and dams,” he said.

“The production is in the weight of a calf due to extra milk of the dam and extra growth in the calf.

“When it comes to hybrid vigour, reproduction is really where you get the huge boost.”

According to research results, it is typical for crossbred offspring to outperform either parent by quite a lot in reproductive function.

“Producers can get up to a 30pc increase in longevity of a cow because she’s highly crossbred,” Dr Shafer said. “That’s due to the combined boost that hybrid vigor delivers in production and reproduction.

“The US Department of Agriculture estimates that highly crossbred cows with highly crossbred calves will deliver 35pc to 40pc more weaned kilos of calf over the lifetime of the cow.”

So if there are so many benefits to be gleaned by crossbreeding the question raised is why is the adoption rate so low? Dr Shafer believes he has the answer.

“The Australian industry, like the US, is not crossbreeding at high rates,” he said.

“In the US about 40pc of commercial cows are straightbred so we’ve obviously got our heads in the sand.

“One of the major reasons limiting crossbreeding is the anointed crossbreeding method - the rotational crossbreeding system.

“In the text books rotational crossbreeding looks very nice.

“You just need to maintain separate breeding groups and rotate the use of purebred sires among those groups.

“But the problem is it is difficult if not impossible to implement.”

Small cow herds have difficulty maintaining large enough breeding groups to make rotational crossbreeding worthwhile.

Even in the case of large herds there are added hassles in separation and management.

“Some large herds do pull it off and I’m not saying its bad; but there’s a reason why crossbreeding isn’t used at the level it should be,” Dr Shafer said.

“I think the fact we have pushed rotational systems as the most favored means of crossbreeding is the primary reason.”

Dr Shafer said the lessons to be learnt were that crossbreeding systems must deliver high levels of hybrid vigour and complementarity and, most importantly, provide it in a simple to implement package.

“Hybrid vigour is part of the profit equation and there needs to be complementarity in a consistent package,” he said.

“But overall the factor that’s been overlooked for a number of years is the system needs to be simple.

“You can devise a system that delivers hybrid vigor and complementarity, but if the system is not simple, for example rotational crossbreeding, then producers won’t use it.

“The solution is nothing revolutionary, its composite beef cattle breeding and it delivers all the benefits of crossbreeding in a simple to use the package.

“It works and it works well, and is going to be used heavily in the beef industry because it just makes sense.”

New Black Simmental genetics in Australia Speaking at the Bonnydale Black Bonanza field day in Bridgetown last week, American Simmental Association director of performance programs Dr Wade Shafer discussed the evolution of Black Simmental genetics in the US. Black Simmental genetics have just been introduced to Australia by the Bonnydale stud.

Dr Shafer said the Simmental breed encountered some huge problems in the United States in the late eighties and early nineties when many Simmental breeders were knocked off track by the show ring from breeding the kind of cattle US cattle producers needed.

“As a result, cattleman lost interest in Simmentals and Simmental sires became nearly impossible to sell,” Dr Shafer said.

“Consequently, Simmental breeders had to change their cattle or face extinction.

“This ultimately saw the development of a new Simmental strain.

“A strain that calves much easier, grows faster yet is considerably smaller at maturity, and excels in carcass traits and most of these new Simmentals also happened to be black in color.

“The first step we took was to turn the cattle from their traditional coat of spotted red to primarily solid black and I call that step genetic paint.

“The color transformation was required because black cattle were bringing a premium in the market place, which prompted US cattlemen to essentially demand that their sires be black.

“In fact, most US breeds are now primarily black in color.”

Dr Shafer described how the breed developed black, purebred animals.

“In the late sixties and early seventies breeders were sampling using European Simmental bulls that were traditionally of a spotted coat over a black cow herd,” he said.

“There were breeders that actually liked the black colour so they kept the black factored half bloods.

“They mated those half bloods to the traditional coloured European bulls and again kept the black factored three quarter blood heifers.

“By doing this for several generations they developed black purebred Simmentals.”

Dr Shafer said that originally Black Simmentals were not popular, with most breeders and commercial producers wanting to keep the Simmental with traditional coats.

However, as black cattle became more popular in the US, breeders of cattle with traditional coats had difficulty selling their bulls no matter how good they were.

“As black cattle became more popular those breeders with Black Simmentals, who we once thought were crazy, all of a sudden had valuable cattle,” he said.

Initially the blacks represented a very small pool of stock with only five or 10pc of Simmentals being black coated.

“Now around 80pc or more in the US are black in colour,” Dr Shafer said.

“Virtually all the rest of them are solid red, with less than 5pc being the traditional colour.”

As a result of turning most Simmentals black producers and feeder calf buyers could not tell the difference between a Black Simmental and an Angus.

“When stock was being run through the yard you couldn’t tell the difference between them,” Dr Shafer said.

This allowed the users of Simmental to receive the price premiums that black cattle were bringing in the market place. The change in color was just a small part of the task Simmental breeders had ahead of them.

“If all we did is change the colour, we would certainly not have developed the popularity we currently enjoy with the US cattle producer,” Dr Shafer said.

“You can cover up your problems, but if you don’t do anything about what caused them you will end up in the same boat.”

To overcome the core problems associated with Simmental cattle — that was calving difficulty, excessive frame size and mature weight and poor marbling — the American Simmental Association (ASA) leveraged its resources by undertaking one of the most aggressive uses of science the industry has ever seen.

“For example, in 1997 the ASA became the world’s first breed society to perform multibreed genetic evaluation to calculate EBVs,” Dr Shafer said.

“The breed also developed the most extensive sire testing project in the industry; besides testing hundreds of Simmental sires for calving, growth and carcass traits in commercial cattle herds, sires of several other breeds were tested right along side Simmental sires.”

By taking this scientific approach the US Simmental breeder was able to benchmark their progress and see where they had work to do.

By leveraging science and going to work, ASA members developed a population of seedstock that has been proven by the United States Department of Agriculture Meat Animal Research Center (USDA MARC) to be superior in almost every trait measured when compared to the other European breeds in the US.

“In fact, USDA MARC has determined that there is essentially no difference between Simmental and Angus sires in calving difficulty when used on cows and the Simmental is now equivalent to the Angus for mature size,” Dr Shafer said.

“Though Angus still has an edge for marbling, a Simmental-Angus cross provides the most optimal blend of marbling and lean meat yield in the industry.

“Because US Simmental now excels in the traits important to the commercial cattleman,

Simmental is currently the most popular European breed being second only to Angus in semen sales.

“Furthermore, the Simmental-Angus cross female is widely considered to be the industry’s ideal female.”