Farming beef profitably means identifying animals that will produce more for less. South Devon genetics in a commercial crossbreeding programme can make a real difference to profit margins.

By Nan Smith

S
ince farmers discovered the benefits of hybrid vigour (heterosis), crossbreeding cattle has been used to boost productivity and bring down costs. Hybrid vigour is defined as outbreeding enhancement and the increased or improved function of any biological quality in the hybrid offspring. In a double advantage to the producer, crossbreeding brings hybrid vigour and combines breed strengths.

According to Scott Greiner, animal scientist at Virginia Tech in the USA, hybrid vigour can be calculated by using the formula: Inbreeding average (purebreed average + purebreed average) ÷ 3,5. This is roughly a 3% increase weaning weight of the crossbred calf against his resources.

The polled gene is a winner that clearly shows off the best traits of the breeds involved. The heifer is bred to a South Devon bull and the 50% breed will be the opposite breed, and the 25% breed will be suitable as dam or sire breeds, and the 25% breed must be suitable as dam for the polled gene. The gene for scurs, if they are to identify bulls homozygous for the polled gene.

Above: This Brahman/ South Devon crossbull is a sire that clearly shows off the best traits of the breeds involved.

A South Devon cross can cross can yield a 23% increase in kg/cow

EASY CROSSING

In a system using the two-breed rotational cross (or crisis-cross), the F1 female progeny are retained and mated back to one of the parent breeds. Females of following generations are bred to the opposite breed of their dam and sire, if South Devon and Nguni are crossed, and the 50% South Devon and 25% Nguni heifer is bred to a South Devon bull, the F2 heifer would be 75% South Devon and 25% Nguni. This animal would then be bred to an Nguni bull for the rest of her life.

In the two-breed rotation, both breeds must be suitable as dam and sire breeds, and should be reasonably biologically compatible. A terminal sire system can be introduced to the two-breed rotation, with 50% of the herd bred to a terminal sire and the offspring all marketed. Replacement heifers are produced in the remaining 50% of the herd, which carries on in the two-breed rotation cycle. Terminal sires need only be selected for calving ease, growth and carcass merit. Older, less-efficient cows can be used in the mating programme, which needs about 100 cows to provide proper support.

YIELD IMPROVEMENT

Weaner production systems are driven by fertility, feed intake, production for weaning weight and market demand. Feed conversion ratios, daily gains, carcass weight and quality drive the feedlot operation. Crossbreeding with South Devons gives producers advantages in both systems - they introduce an efficient feed conversion ratio, low intakes and good gains. A South Devon cross can yield a 23% increase in kg/cow, much more than the average 12% increase generally found in the F1 cross. There is a further weight increase in the F2 progeny of the South Devon cross. To drive profit, animals selected for crossbreeding have to bring extra fertility, growth and carcass merit to the system, while transferring the ability to reduce intakes without sacrificing performance. The South Devon easily meets these requirements, and brings good temperament and easy handling into the mix.

RECENTLY POLLED

The advantages of the polled gene in cattle mean that breeders are selecting for polleness more often. Also, animal welfare groups are increasingly concerned about dehorning. Horns are a danger to other cattle and handlers, and are a problem in the crush, in transport trucks and at the abattoir. In feedlots, horned animals must be dehorned, and at this stage the process can cause a setback, thus compromising gains. Horned animals are also prone to bullying polled or dehorned cattle away from feeding, drinking and resting areas. The polled gene is a naturalised South Devon gene, that improves their performance.

A South Devon bull can carry on in the herd for the rest of its life. In the two-breed rotation, both breeds must be suitable as dam and sire breeds, and should be reasonably biologically compatible. A terminal sire system can be introduced to the two-breed rotation, with 50% of the herd bred to a terminal sire and the offspring all marketed. Replacement heifers are produced in the remaining 50% of the herd, which carries on in the two-breed rotation cycle. Terminal sires need only be selected for calving ease, growth and carcass merit. Older, less-efficient cows can be used in the mating programme, which needs about 100 cows to provide proper support.

RAND VALUE INDEX

Dr Michael Bradfield of Breedplan SA says that market-related figures and modern breed values used to calculate a rand value index for each animal are key to profitability. Many breeds record an insufficient number of traits to allow for meaningful development of economic indices. But the economic index is vital if genetic progress is to be accelerated, and producers should have a good recording system across a broad range of traits. The South Devon cow rand value index, increased by R18,750 from 1996 to 2006, shows the value of the breed, are poised to take the commercial cattle world by storm. These ‘naturalised South Africans’ South Devon cattle, bred by a group of dedicated farmers aware of the profit possibilities and ease of performance, is poised to take the commercial cattle world by storm.

Phone the South Devon Breeders’ Society of South Africa on 051 410 0967, or email adm@sdbrs.co.za

PROMOTIONAL ARTICLE

TOP: Developing SA cattle can be a fast way of accessing the benefits of crossbreeding. This crossbred South Devon steer and weaner will have more value and less risk per frame of stock than the purebreeds.

Above: This Brahman/South Devon crossbull is a sire that clearly shows off the best traits of the breeds involved.