$Index put to the Test

In the early days it was an extensive pastoral sheep run, with the higher country supporting the predominantly merino flock and the easier country, scrubby native vegetation. This formerly unproductive area now is covered in ryegrass and white clover. In winter a relatively small area of swedes is grown as part of an annual regrassing program. Development of the higher tussock-clad country continues with 200 ha annually converted to more productive species, using the cowherd to ‘break’ the matted vegetative surface in autumn/winter, ready for aerial sowing in spring. The station also owns three finishing properties on the Southland plain, and leases a large irrigated property in Canterbury.

In recent years, under the guidance of Alistair McGregor, one of the stations more focussed objectives has been to improve the genetics of its sheep and cattle. It was one of the early members of the NZ Romney Development Group (the first sheep group breeding scheme in NZ), was an early adopter of European cattle genetics in the early 1970s and has the largest Texel flock in New Zealand.

Today it runs a performance recorded Angus (PRAC) herd of around 700-800 females, together with a commercial herd of 1000 cows that is now predominantly Angus. The PRAC herd, purchased as a commercial herd about twelve years ago, is based on Te Mania bloodlines. Since being at Mt. Linton this has been bred with a very strong maternal focus and emphasis on marbling, as the station produces a significant number of cattle for the Five Star feedlot (the only major feedlot in NZ).

Early breeding objectives in the PRAC herd focused on ease of calving, fertility, longevity, growth (particularly to 400 days), milk, mature weight and marbling.

Around 400 cows are AI’d annually using proven sires that:

- Display high direct and maternal calving ease,
- Significantly bend the growth curve at both ends,
- Have moderate milk EBVs and
- Break the negative genetic relationships between carcass yield, rump fat and marbling.

The breeding objectives today haven’t basically changed, however now that New Zealand Angus has developed a self-replacing (NZAASR) BREEDPLAN $Index, all the difficult calculations associated with identifying and prioritising traits of economic importance and accounting for genetic relationships between traits, have been removed. Genetic selection of sires, herd replacements and culling of mixed age cows has become so much easier.

Last year I was approached by Mt. Linton to review their breeding program, and to reduce the number of performance recorded cattle in the herd, starting with selection of the 320 replacement yearling heifers. We decided to use the NZAASR Index as the primary genetic selection tool and EBVs to identify any extreme animals. The heifers were run up the race, any below breed average Index, any predicted to be below 300 kg at mating, plus those with extreme EBVs for calving ease/birthweight, growth and milk were drafted off. The keepers were scrutinized for breeding soundness, temperament and type and some 10% culled. The final mob was surprisingly even both phenotypically and genotypically and in great order for AI. The process took about 5-6 hours and was greatly simplified by the use of the Index, which proved a roaring success. If faced with the same job again, I would not hesitate to revisit this approach.

The mixed age cows will be culled on breeding soundness 2-3 weeks after weaning to let the cows dry off to allow a thorough inspection of udders. Other culling will be done on feet, legs, teeth/jaws, temperament, fertility and a combination of age and condition (old cows in very light condition will be culled). The cows remaining will be ranked on the NZAAR Index using Internet Solutions and the required number of the poorer performers removed.

Future AI sires will initially be selected using Internet Solutions to rank them on the Index, then EBVs will be used to do the fine tuning. Natural mating (mixed aged cows not AI’d) will be performed by high-ranking homebred bulls of acceptable ‘type’ that are reproducibly sound.

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