Thoughts on the implementation of a common base for breeds in BREEDPLAN

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Common Base for Breeds in BREEDPLAN

All cattle have four legs, one head and say "moo". Cattle breeders have spent a huge amount of time and effort in breeding various strains to look uniform e.g. red with white faces and horns, pure black with no horns, grey without horns etc. Once they become carcases the only important factor is the ability to meet a particular market specification.

Some cattlemen try to meet markets with a particular breed while others mix the breeds (and colours) up to take advantage of hybrid vigour and the much greater genetic variation in the whole cattle population for meat yield and meat quality.

What would help all cattle breeders is to be able to directly compare EBVs across breeds. In the ideal world we would put the EBVs for all breeds on a common base. In the real world it will be very difficult to get all breeds to agree to this. The alternative is to develop a simple computer program which would convert the EBVs of at least the major breeds to a nominated base – it might be the Angus base, the Hereford base or another breed base.

A commercial breeder could then utilise the total beef cattle genetic pool to more accurately select the bulls that best suit their production goals.

What are the Hurdles?

To put the EBVs of different breeds into a common base requires direct comparisons of as many breeds as possible in breed comparison trials. The sires in these breed comparison trials must have EBVs so that their ranking in the breed for each trait is known. The research projects that will provide useful benchmarking information are:

- The CRC Northern Crossbreeding Project.
- The Grafton Crossbreeding Project.
- The Struan Breed Comparison.
- The Southern Multibreed Project.

The large amount of data generated in these projects is currently being entered in a multibreed database at ABRI.

Preliminary estimates of the adjustments needed to put the eight sire breeds used in the Northern CRC crossbreeding project have been made by staff at AGBU. These results will be published in the Journal of Animal Science in the near future.

Data from the other three projects, is being assembled into the multibreed database and a preliminary analysis of this data will be done by the end of 2002.

Multibreed EBVs will be possible for some traits before other traits.   For example it is likely that it will be much easier to obtain interbreed comparisons for the growth traits than for milk or calving ease.

There may need to be some compromise between the advantage to the industry of multibreed EBVs and the need for high reliability of the between breed comparisons.

The spread of EBVs for a particular breed will be much greater than the difference between breed means. Therefore differences between individual bulls will swamp small errors in the breed means. The accuracy of the breed mean differences will gradually improve as more breed comparison data is added to the multibreed database.

Commercial breeders are likely to continue to use breed as their first criteria when selecting sires for planned straight or crossbreeding programs. For example they are hardly likely to choose a Hereford bull over an Angus bull simply because the Hereford bull is 5kg higher for 400 day EBV. A whole lot of other factors such as carcase, reproduction and adaptation traits as well as the opportunities for hybrid vigour are likely to be considered by breeders in selecting bulls.

Conclusion

Breed societies and their members have invested large amounts of money into the accumulation of performance data and the annual analysis and publication of genetic evaluations. If they put the interests of the beef industry above breed rivalry they will support the concept of multibreed EBVs which will help cattle breeders to use the full range of genetics available to produce cattle which meet market requirements and maximise profits.