New market alternatives for north Australian beef

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Summary. Cattle produced from monsoonal areas of Australia have always had limited market outlets because they were light and old. Malnutrition caused by the low nutritional value of the native pastures can now be overcome by mineral supplementation, improved cattle husbandry and sown pasture technology developed over the past 15 years. Improved capacity to meet market specifications is demonstrated by development of live grower exports to southern Asia, by a growing weaner market in Queensland, and by an increasing number of cattle satisfying the local trade market.

New demands, old supplies

For most of the past thirty years, north Australian beef producers have had ready markets for their two main products, elderly bullocks and middle-aged stores. The former were exported as US manufacturing beef, the latter travelled south (and more recently, north to southern Asia) to be grown and finished as elderly bullocks.

In the past 5 years, domestic and export markets are becoming increasingly segmented into smaller parts, each part being quite specific about the beef products they want. In general, the trend is toward younger product with specific weight and fat cover ranges. These specifications result in store buyers, too, seeking younger animals for finishing inside a reduced age of turnoff.

Producers in northern Australia have specific problems in meeting these specifications, quite apart from their general problems of harsh environment and remoteness from markets. Over most of the north, the climate is sub-humid, with very seasonal rainfall producing pasture growing seasons of only three to five months. Pasture matures quickly and has low digestibility and protein concentration during the dry season. Infertile soils exarcebate the malnutrition problem. Producers counter with low stocking rates to facilitate selective grazing across landscapes, but in so doing, increase per head costs of mustering, fencing and watering to unsustainable levels.

The upshot is poor husbandry and low productivity, with branding rates of 40-50%, annual breeder mortality rates of up to 16%, and annual growth rates of 60-80 kg/steer (1). Such growth rates result in turnoff cattle being too old or too light for modern markets. Cattle properties operating under these conditions may be surviving but they are not economically self-supporting.

Technology for change

Over the last 15 years. the basic problems of phosphorus and nitrogen deficiency have been solved through developments in new pasture cultivars, soil fertility management, direct supplementation and cattle husbandry and breeding (1,3,4). Most of this work has been done by the relevant State Departments of Primary Industries and C.S.I.R.O. Some of the funding support has been provided by the cattle industry through the Meat Research Corporation in its North Australia Program.

Sown pastures

The accidentally-introduced legume Townsville stylo (*Stylosanthes humilis*) gave an indication of the scale of the improvements that could be achieved from an environmentally adapted legume. This genus has produced several commercial species, by far the most versatile being Seca (*Stylosanthes scabra*), released for commercial use in 1976.

Seca is now supported with a number of more environmentally-specific legumes such as Verano (S. *hamata)*, Wynn (*Cassia rotundifolia*), Lee and Glenn (*Aeschynomene americana*). They will all grow on

soils with phosphorus levels as low as 3 p.p.m. and will respond to added fertiliser up to 10 p.p.m. soil phosphorus. All are persistent when sown into native grasses but the native grasses cannot withstand higher grazing pressures that usually accompany successful legume oversowing. A range of introduced grasses will grow under low phosphorus status and withstand wet season grazing. The grasses include Indian couch (*Bothriochloa pertusa*), Urochloa (*Urochloa mosambicensis*), Humidicola (*Brachiaria humidicola*) and Gamba (*Andropogon gayanus*).

The techniques used to establish these pastures range from sowing legume seed onto undisturbed soil through to complete clearing and ploughing before fertilising and sowing. The range of carrying capacities, weight gains and weight gain periods from these pastures is shown in Table I.

Pasture type	Carrying capacity (ha/steer)	Annual LW gain (kg/steer)	Weight gain period
Native	25-50	40~70	Dec-May
Native + P supp	20-40	80-120	Dec-May
Oversown + P supp	3	140	Dec-Sep
Intensive + grass	1.5	160	Dec-Sep

Table I. Production from native and sown pasture at 3 p.p.m. soil phosphorus

Mineral supplementation

Where dietary phosphorus is low, direct feeding of mineral supplement is effective. A number of proprietary and home-made supplements have been developed. Nitrogen, sulphur and salt are often included in these licks. The use of supplements has the effect of congregating and quietening cattle. This and the higher stocking rates of the cattle on the sown pastures makes a high standard of cattle husbandry practical.

Husbandry and breeding

Branding rates of 70-75% are being achieved when calves arc weaned early before cows lose too much condition. The use of Brahman *(Bos indicus)* cattle has improved the adaptation of cattle to this region. With improved nutrition through sown pastures and supplements the Brahman content can possibly be reduced in the future to more easily achieve carcase suitability to markets.

Property development and cattle management

Increasing carrying capacity and branding rate makes stock segregation economically possible. Grazing sale stock in an easily-mustered paddock increases sale options while decreasing selling cost. Further segregation of stock into weaner, heifer, first-calf cow and mature cow groups enhances the options for other management strategies.

Specialised feeding of weaners and heifers, controlled mating of heifers and culling of low fertility breeders leads to lower mortalities and increased branding rates (3). With improved breeder control, crossbreeding for specific traits, including a terminal herd, becomes a practical option.

Self-mustering systems (2), based on trapping and cow-calf separators, are being developed and tested. They will enable other cattle management practices to be implemented at an earlier stage of property development than was previously possible.

New demands, new supplies

While most northern producers remain distant from meatworks, they will have difficulty supplying finished cattle to the premium local and export markets. That leaves them the choice of supplying the domestic or export (southern Asia) market for young stores or supplying the traditional US manufacturing beef market.

Producers on very harsh country may need to sell at weaning but for most, premium feeder steers weighing 250 kg at 18 months can be produced by a combination of good weaner husbandry, supplementation and sown pasture grazing. Furthermore, the technology permits a longer selling season than previously possible.

This change in product emphasis will accelerate as more producers increase branding rates and reduce death rates to the point where store production becomes more profitable than bullock production.

The specification feedback data supplied by meatworks under the Aus-meat description system and the classification under the C.A.L.M. selling system are supporting this change in production. Producers are receiving clear identification of the type of cattle they are producing and hence are in a position to make positive improvements. An increasing percentage of store cattle are being sold by weight and it is therefore in the store producer's interest to produce a younger, heavier animal. Market premiums for younger slaughter cattle will reinforce this trend.

Implementation of the pasture and supplementation technology referred to here can have environmental advantages for both this region and other parts of Australia. As the technology is applicable to the poorer country, grazing pressure on the stream frontages, naturally better and suffering overgrazing, can be reduced. As grazing pressure is reduced on the degraded drier areas of Australia. beef production can be maintained from the better-watered north.

References

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