

Introduced grasses: poor master but useful servant?

There are many environmental problems with introduced grasses in northern Australia; altered fire regimes which in turn damage our native vegetation is just one of them. However, improved pastures are an important part of cattle production for many markets. Agricultural consultant *Trevor Howard* looks at some strategies the grazing industry and government are implementing to help contain exotics while reaping the benefits.

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A past issue of *Savanna Links* highlighted the problems associated with introduced pasture grasses in northern Australia^{1,2}. The author, David Bowman, portrayed the introduction of gamba grass *Andropogon gayanus* as an evolutionary experiment that pits northern Australian savanna ecosystems against an extremely fire-tolerant African grass. There is no doubt that gamba grass is a fire problem in unmanaged situations as it contributes to fuel loads far in excess of native grasses and cures much later in the dry season. There is ample evidence of native vegetation being severely degraded by fires fuelled by gamba grass to warrant serious concern.



Workshops on controlling improved pastures are being held in the NT and Queensland. Nearly 100 people from conservation and land-management agencies, the pastoral industry, landcare groups, fire authorities, and traditional owners attended such a workshop in Darwin in November 2000.

Exotics versus natives

The problem is not confined to gamba grass. Para grass *Brachiaria mutica* also alters fire regimes on Northern Territory floodplains and wetter areas, and buffel grass *Cenchrus ciliaris* has similar effects in more arid areas. Elsewhere in the wet tropics of northern Australia guinea grass *Panicum maximum* is a species which has deleterious impacts on fire regimes and native vegetation^{3,4}. Even Tully *Brachiaria humidicola*, a successful and popular grass for pasture and hay that grows in a low dense sward, burns with considerable intensity when cured. The gamba grass issue is part of a much bigger debate about the introduction of exotic grasses for cattle production.

While native pastures will remain the dominant component of the north's grazing systems, there are limits in using native pastures for beef production across the high-rainfall monsoonal areas of northern Australia. Despite moderate growth during the annual wet season perennial grasses become dormant during the dry season and annuals die after setting seed. While native grasses may be well adapted to the seasonal cycle, the growth of cattle in these conditions follows a saw-tooth pattern with weight gains punctuated by periods of weight loss. Animals may require several seasons to achieve market weight but the resulting carcass may not be suitable for quality beef or high returns. To some

extent, improved pastures are also limited by these cycles, but on the whole they tend to be more productive, resulting in a more consistent growth path for cattle, a younger turn-off and a higher quality carcass.

Beef standards tighten

The advantages of improved pastures are being keenly felt now that beef markets are becoming more competitive and animal specifications are tightening. Under the domestic Meat Standards Australia tenderness guarantee scheme the growth path of cattle is an important factor in the acceptance process which excludes older animals raised on an erratic plane of nutrition. For live export cattle, age and weight requirements are specified and premium prices are paid for young animals suitable for optimum performance in the Asian feedlot industry.

In this context, improved perennial pastures have advantages as they offer higher energy, digestibility and protein levels as well as a capacity to carry more stock during the growing season and beyond. Many, such as gamba grass, use moisture efficiently and remain palatable and productive for longer into the dry season than their native counterparts. An important attribute of some of these grasses is their resilience under grazing pressure and their contribution to erosion control. Improved



pastures are now an important part of cattle production for many markets. Where improved pastures are sown, sound management practices to prevent off-site environmental and fire control problems are essential.

With quality assurance schemes such as Cattlecare now integral to many production and marketing pathways it is only a matter of time until whole property management becomes a focal point for some markets

Codes of practice

Industry is certainly recognizing and responding positively to the signs. Ongoing concerns about the potential weediness of the valuable forage legume *Leucaena leucocephala* have prompted commercial growers in Queensland to develop an industry Code of Practice⁵. The Code of Practice provides management guidelines for producers who wish to plant leucaena or reduce the likelihood of problems with existing plantings.

Gamba grass offers similar opportunities for a Code of Practice. Gamba grass can be managed in a pastoral situation, although it is no longer recommended by government in the Northern Territory⁶. At a recent gamba grass control workshop in the Northern Territory, Jeff Little, manager of Opium Creek Station, pointed out that although it is twice as difficult as other improved pastures to manage, it can be done successfully.

Weeds or pastures?

While many people argue for the declaration of gamba grass as a noxious weed, followed by a big-stick approach from government, this will not remove the issues, infestations or plantings. Perhaps in areas such as the rural residential hinterland of Darwin the use of legislation could have some merit. But any blanket declaration would be unrealistic given the cost of enforcement and the fact that large-scale plantings are still used on many pastoral properties.

Ongoing debates about whether gamba grass is a weed or a pasture are meaningless and unproductive. Gamba grass can be both, depending on the context in which it occurs and the perspective of the individual. We now know that gamba grass can be effectively controlled with glyphosate⁷ and that seed viability declines to a minimum over 12 months so that control efforts can be very rewarding⁸. What is needed is a process that engages everyone including pastoralists and conservationists, which promotes best practice in animal production enterprises as well as control programs, and which communicates the success stories from both pastoral and conservation perspectives.

Considerable progress has already been made in this regard. Some recent workshops in both the Northern Territory and Queensland have attracted participants from all sides of the fence and have exchanged information of value to all. In November, 2000, a workshop near Darwin was attended by nearly 100 people from conservation and land management agencies, the pastoral industry, landcare groups, fire authorities, horticulturists, small rural block owners and traditional owners. Effective control techniques were demonstrated and the results of successful control programs were pre-

sented. Land managers are very interested in understanding how to manage and control these new grasses. Learning to live with existing introduced grasses appears to be the most realistic option.

Accreditation framework

The ISO 14000 accreditation framework, which is concerned with the local and regional environmental impacts of production systems and the policies and practices of an organisation, may well be the yardstick by which future producer performance is measured in discriminating markets.

The use of pasture species that improve animal production but contribute to the degradation of natural resources may limit domestic processing options or may jeopardise Australia's position in overseas markets unless sound management practices are demonstrated. Meat and Livestock Australia is about to fund a pilot study to explore the potential for developing an Environmental Management System for the beef industry based on ISO 14000 standards⁹. Another proposal is being developed to establish environmental codes of practice for the northern beef industry¹⁰. Obviously this will not happen overnight to resolve current problems and issues, but if current trends continue there will be a major shift in beef production and marketing over the next few years.

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