Agnote

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An Introduction to Pastures of the Katherine Region

Part 2. Common uses for introduced species

D. Parker* and M. Cobiac*, Agricultural Extension, Katherine
* Formerly DoR

INTRODUCTION

Introduced pasture species have an important role in the Katherine region as special purpose pastures within a predominantly native pasture grazing system. While useful, they are unlikely to replace native pastures as the primary source of feed for extensive cattle herds in this region due to climatic and financial constraints. Part 1 (Agnote E10) describes the various introduced pasture species available for the Katherine region. Part 2 (this Agnote) outlines some of the more common uses of these species.

PASTURE AUGMENTATION

Adding a legume species to an existing native pasture to enhance its grazing value is known as pasture augmentation. The purpose is to improve the nutritional value of the pasture. This improved nutrition is primarily in the form of protein in the early to mid Dry season. Increases in carrying capacity may be possible once the legume is well established.

Stylos have been the most widely used species in pasture augmentation. They can be successfully established into native pasture without cultivation.

Such augmented pastures may be used by specific groups such as growing animals, steers and/or replacement breeders to benefit from the extended period of available nutritious feed.

Pasture augmentation is a low input and low annual maintenance method of providing improved grazing conditions. The recommended method of establishment is to broadcast seed and fertiliser onto burnt ground at the start of the Wet season. Grazing of legumes in the first Wet season should be limited to the period up until flowering. This regime will help reduce competition from perennial grasses during establishment but should allow flowering and seed set. Light grazing is recommended during the first Dry season. Fertiliser application in the second Wet season greatly assists establishment and improves productivity.

Over time the legumes will spread beyond the original established area as cattle consume and then distribute viable seed throughout the paddock. Resources should be concentrated on properly establishing small areas rather than spread the effort over a large area.

PASTURE REPLACEMENT

Full pasture replacement involves clearing of land, cultivation, and the substitution of native pastures with introduced species. Clearing of pastoral land requires approval from the Pastoral Land Board. The Department of Infrastructure, Planning and Environment should also be consulted on all intended clearing.

Intensive grazing and farming have been established in the Katherine-Daly Basin on freehold land, with clearing of large part of individual properties. Full pasture replacement is best suited to the most productive soil types because of the high capital cost of development.

Introduced pastures often have a specific role in the grazing system. This role determines the most suitable species and management regime. Control of woody weeds and sucker regrowth is an ongoing issue. All pastures will benefit from the application of fertiliser because of the inherent low fertility of soils in the area.

Grass-Only Pastures

Usually based on buffel or sabi grass, grass-only pastures are often developed close to yards in smaller paddocks. They are able to withstand periods of heavy grazing and are generally used at times when cattle are in the yards and for a short time after. They are usually spelled over the Wet season, but may be used on a year-round basis. Grass-only pastures are commonly produced in paddocks for holding animals.

This type of pasture requires high initial input and some annual maintenance. Grass-only pastures permit the use of herbicides for broadleaf weed (e.g. sida, hyptis, senna) control. These species often build up as a consequence of high use. Occasional applications of fertiliser will improve pasture health and productivity, both in the short and long term.

Weaners on mixed pasture at Bunda Station

Indian bluegrass is particularly suited to colonising degraded and eroded areas. It is moderately palatable to cattle, and can stabilise the soil and provide competition to less desirable species such as weeds.

Mixed Pastures

Mixed pastures are based on the previously discussed perennial grasses and legumes such as the stylos, blue pea, Cavalcade centro and Wynn cassia. They are often established in larger paddocks close to the main station infrastructure.

Management of weeds is more complex than with grass-only pastures as most of the commonly used broadleaf herbicides will affect the legumes. Regular fertiliser application will be necessary to maintain productivity.

These pastures can support high stocking rates and extend weight gains well into the Dry season. Their main use is targeted at high value animals. Some examples are:

- extending the steer turnoff period;
- ensuring that a high proportion of replacement breeders reach target mating and calving weights;
- improved grazing for young weaners.

Mixed pastures are often used for longer periods of continuous grazing than grass-only pastures. However they require spelling or light stocking rates over the Wet season. They may also be used for hay production depending on seasonal conditions. They require high initial input and greater annual maintenance than grass-only pastures.

Legumes do not tolerate heavy grazing pressure and are more easily depleted than perennial grasses. As a result careful grazing management is required to maintain legumes in the sward.

THE MANAGEMENT OF INTRODUCED PASTURE SPECIES

In the evaluation process for selecting pasture species for commercial applications, some of the desirable characteristics considered are:

- Ability to establish and colonise areas particularly native pasture areas.
- Persistence under various grazing and fire management regimes.
- Palatability and feed value for grazing livestock.
- Suitability for various rainfall and soil conditions.

Many of these features are also found in the more successful weed species and some introduced pasture species are now considered weeds in the natural environment. In establishing introduced pastures in an area, the accidental introduction into other areas must be considered. In some instances this may be considered of positive benefit but it can also have undesirable implications. Buffer areas should be considered between sites of introductions and other areas where those same species may be considered undesirable. In this way the movement of the species can be monitored and controlled if necessary

Introduced pasture species are susceptible to the common available herbicides. In general terms all species are susceptible to broad-spectrum herbicides such as the various formulations of Glyphosate. In addition, introduced legumes are susceptible to many of the common herbicides used for controlling broadleaf weeds and introduced grasses are susceptible to the common grass specific herbicides.

The same principles that are used to prevent the spread of noxious weeds can also be applied to introduced pasture species. One of the most important is to maintain healthy stands of native pastures. In addition, species such as buffel grass, will not readily spread beyond their original planting areas in the Katherine region.

CONCLUSION

Incorporating introduced pasture species into a native pasture grazing system requires careful consideration. The intended use of the pasture must first be determined as selection of species and methods of establishment depend on the use.

In pastoral areas, introduced species are likely to remain a minor proportion of the total grazing area. A pastoralist's main emphasis should be on managing the native pasture resource, and then utilising introduced pastures on relatively small areas for special purpose use.

Agnotes containing general information on introduced pastures and more detailed information on individual species are available from the Department of Resources.

WARNING

Pasture plants have the potential to become weeds in certain situations. To prevent that, ensure that pasture seeds and vegetative materials are not inadvertently transferred to adjacent properties or roadsides. Contact your Department of Resources Extension Officer for information for appropriate management.

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