



Gamba

Management Guide

Description

Gamba grass (*Andropogon gayanus*) is a perennial species introduced from Africa. It has a number of key identifying features including;

- mature plant growth up to four metres tall with tussocks up to 70 cm in diameter
- 30 - 60 cm long leaves up to 3 cm wide, with a distinctive white midrib and covered with soft hairs
- robust stems covered in soft hair
- shallow root system spreading up to one metre from the tussock close to the soil surface
- reproduces from seed, generally flowering in April
- seed is contained in a V-shaped seed head and has a fluffy appearance
- seed head consists of up to six groups of branches, each containing 2 - 18 primary branches

The Problem

Gamba grass is a useful pasture species however this comes at a cost. Gamba grass is a highly invasive grass species. It is well suited to northern savannas, where the combination of impacts on fire regimes, soil nutrient and soil water cycles is impacting on native plant communities.

Gamba grass creates very high fuel loads, up to seven times that of native grasses. This results in intense fires that destroy native plant communities. In some areas this process of very hot, late fires and the plant's ability to quickly colonise the disturbed areas it creates, is leading to a cycle of woodlands being replaced by tall perennial grasslands. This impacts negatively on the native animals dependent on the health of the Top End savanna woodlands.

Habitat and Distribution

Gamba grass is suited to most soil types except for heavy clay soils where waterlogging reduces survival. It requires an annual rainfall of at least 600 mm. Most infestations are currently north of Katherine in areas experiencing an average of approximately 950 mm annually.

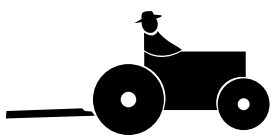
Originally introduced as a pasture species. Research and trials resulted in wide plantings in the pastoral and agricultural areas of the Top End. Gamba grass is well suited to the northern savannas as it is well adapted to tolerate seasonal droughts, fires and low nutrient soils – all of which are characteristic of the region.

Initial plantings, subsequent spread of seed in hay along roadsides and further deliberate plantings, have resulted in gamba grass occupying an area estimated between 10,000 km² and 15,000 km². Considering the rainfall requirements and suitability of soils in the Northern Territory, it is estimated gamba grass has the potential to occupy an area covering 380,000 km².

STEP 1 ASSESS THE SITUATION

Obtain a map of your property and mark the gamba grass infestations.

The density and distribution of gamba grass on your property will influence what your management objectives will be:



Keep areas clean through the prevention of seed movement.



Eradicate small and scattered priority infestations through active control.



Contain the spread of large infestations through strategic control.



Contain and actively manage gamba grass on pastoral land.

STEP 2 DEVELOP YOUR PLAN

Prepare a property weed plan that identifies clear management objectives and the tools you will use to achieve these. Ensure you also identify when you will start, the resources required and if you can coordinate with neighbours.

Prevent the spread of seed into areas currently gamba free by ensuring machinery, livestock and soil being moved onto and around your property are clean. Minimise ground disturbance by maintaining a vigorous cover of native vegetation.

Commence physical or chemical control of priority areas, including low density and scattered infestations, before seed production occurs.

A range of tools including fire, herbicides and slashing can be used to contain large infestations and prevent spread into areas where gamba grass is not yet well established.

In areas where gamba grass is used as a pasture, a range of tools can be used, such as chemical and physical control methods, to keep the species contained and to maintain firebreaks around these areas.

JAN

FEB

MAR

APR

MAY

JUN



Identify and manage gamba grass early

Avoid seed spread during the main seeding period

STEP 3 IMPLEMENT YOUR PLAN

Physical

Hand pulling with a mattock or a hoe is an easy way to remove individual gamba plants with their entire root mat. Shake or kick off excess soil to prevent regrowth from the root mat.

Cut, mow or slash gamba grass as seedlings emerge, before seeding and after seeds drop.

Vehicles, machinery and personnel working in gamba grass areas should be cleaned of seed before moving into clean sites.

Chemical

Commence spraying operations before May so plants are killed before seed set.

Products containing glyphosate are effective and efficient for gamba grass management. Best results are gained using clean water and spraying during the wet season when plants are actively growing. The entire plant must be treated for effective control.

Spraying plants while young reduces time and herbicide use, but gamba grass must be actively growing with leaves at least 40 cm long to enable sufficient uptake by the plant.

To treat larger areas, start at the edges and work inwards, gradually reducing infestation size.

Burning

Avoid burning gamba grass while mature seed is held on the plant, as seed may be moved by fire. If necessary, treat with herbicide first to create enough dry matter for an earlier burn.

Low intensity burns during the wet season can effectively remove untreated plants from the previous season. This provides 'cooler' fires that are less damaging to the environment, improves access to infestations for slashing or spraying, and provides a level of control of young gamba grass seedlings.

Before lighting fires, check the weather conditions and get a permit from Bushfires NT if required.

Grazing

Graze pasture with enough stock to keep gamba grass below a height of 90 cm. Above these heights, tussocks may be avoided by stock and allowed to produce large quantities of seed.

After lightly grazing pastures in the early wet season, a stocking density of approximately 4-5 head per hectare is required to control growth throughout the remainder of the wet. Increase grazing pressure if grass height nears 90 cm.

Gamba grass is not recommended for cattle production on smaller properties as it requires high stocking densities to keep it low and palatable.

JUL

AUG

SEP

OCT

NOV

DEC



Dry gamba grass is a fire hazard

Wet season rains stimulate seed germination

STEP 4 MONITOR AND REVIEW

During and after control operations, make an effort to note what you did, where and when you did it and also note the results of your program. This information will be very helpful for you to make improvements and more effective plans in the future as your level of understanding increases.

Review

- Did you achieve your goals, eg. were they too ambitious, too conservative, were they realistic?
- What worked? What didn't work?
- Was there a difference in results for different areas? Why?
- Do resources need to be increased or decreased?
- What were the benefits, eg. increased productivity, increased native plant recruitment, less fire problems
- Is revegetation with native species necessary?

Management option cost estimate

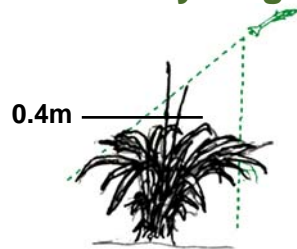
Slashing

Overall = \$60-\$80/ha
Firebreaks = \$25-\$30/km

Herbicide

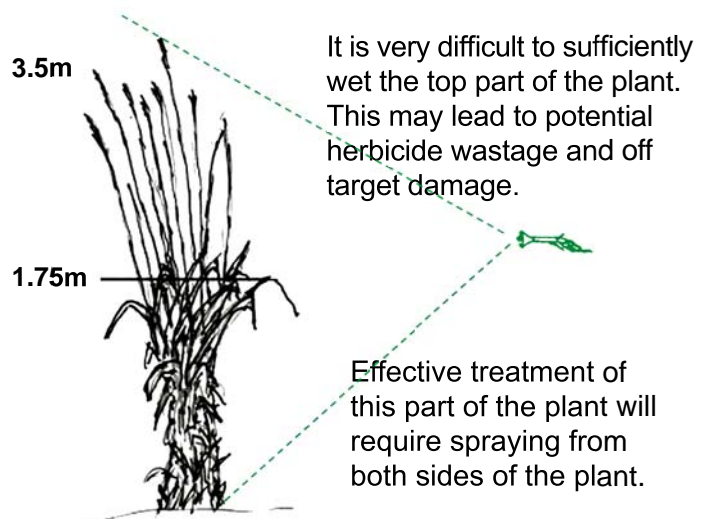
Glyphosate = \$12.50/L
= \$30-\$120/ha

The benefits of treating gamba grass at an early stage



Plants sprayed at this height can be effectively treated in a single pass with most herbicide hitting the target.

Treatment at 0.4m in height can reduce herbicide usage by as much as 85%



It is very difficult to sufficiently wet the top part of the plant. This may lead to potential herbicide wastage and off target damage.

Effective treatment of this part of the plant will require spraying from both sides of the plant.

RESOURCE CONTACTS

Planning, technical advice and publications

8999 4567 Darwin Weed Management Branch
8973 8107 Katherine Weed Management Branch

NRM Facilitators

For a list of regional and local facilitators, go to
www.nt.gov.au/natres/nht/contacts.html
www.nrmbnt.org.au/contact_us.shtml

Landcare

8999 3423

Contractors

For your local contractors, look up Weed Control or Pest Control in the Yellow Pages directory listing

Useful Websites

www.nt.gov.au/gamba
www.nt.gov.au/weeds
www.weedscrc.org.au
www.weeds.org.au
www.csiro.au/invasiveplants.html