

# Mitchell grass response and suggested management guidelines based on research and grazier experience

## Response

## Description

## Suggested management guide



Good

- A dense stand of living Mitchell grass with reasonable to good forage
- Approximately one live tussock for every pace
- Tussocks responding with medium to high vigour
- The capacity to support 100% of usual stock numbers.

- Continue management practices that have supported this result. You may wish to consider:
- Encouraging plants to seed, through light grazing early in the wet season
  - Implementing a pasture monitoring program.



Moderate

- A reasonably dense, to slightly patchy stand of Mitchell grass which has the potential to produce reasonable forage
- Approximately one live tussock for every three to five paces
- Tussocks that have responded with moderate to low vigour
- Pasture which may include some dead tussocks
- The capacity to support up to 85% of usual stock numbers.

- Recovery of this pasture will rely on existing plants. Protect new tillers and allow surviving plants to renew energy and nutrient reserves. You may wish to consider:
- Wet season resting or
  - Reducing grazing pressure in areas where tussocks are small or sparse
  - Feed budgeting to match stock numbers to feed on offer
  - Implementing a pasture monitoring program.



Patchy

- A wide variation in the responsiveness of tussocks
- Areas of good response within areas of poor response
- A sudden transition between these areas
- Dead tussocks probably obvious
- Reduced ability to produce reasonable forage
- Capacity to support up to 60% of usual stock numbers.

- Recovery of this pasture will rely on the areas of good pasture. The protection of both tillers and plants is important. You may wish to consider:
- Feed budgeting to match stock numbers to feed on offer in patches of good pasture
  - The protection of plants in these areas is important.
  - Encouraging Mitchell grass plants to set seed
  - Implementing a pasture monitoring program.



Poor

- A sparse stand of live Mitchell grass with reduced ability to produce useful forage
- Approximately one live tussock for every ten paces or more
- Tussocks which generally have responded with low to moderate vigour, isolated plants may have responded well
- Dead tussocks probably obvious
- A capacity to support up to 45% of usual stock numbers.

- Recovery will be mostly through protecting and nurturing seedlings into adults, with a base diameter greater than 5 cm. You may wish to consider:
- Conservative stocking to avoid seedlings being grazed or trampled
  - Light stocking or wet season spelling over subsequent seasons, providing good rainfall is received
  - Allowing plants to seed (you may wish to assess soil seed bank levels)
  - Implementing a pasture monitoring program.



None

Sufficient rain has not been received to produce a response from the Mitchell grass. The area is still severely affected by drought  
 May be difficult to determine if tussocks are alive or dead (field techniques overleaf).

- In areas that are still drought affected you may wish to consider:
- Delaying restocking until good rain has been received
  - Resting pasture after rains to allow plants to renew energy and nutrient reserves and set seed.



# Field techniques to assess Mitchell grass status

## Tussock tug

Try to pull a portion of the tussock out of the ground. If it does not pull out with two or three firm tugs, the plant is probably alive. If it pulls out easily, that portion of the plant may be dead. Note that plants will pull out more easily if the soil is moist.

## Butt squeeze

At the base of the plant and just below the soil surface is a thickened rhizome, a portion of the root where energy is stored and from where new stems (tillers) emerge. If this structure is firm and robust, the plant is likely to be alive. If it crumbles readily when squeezed, that portion of the plant is likely to be dead.

## Root strip

Extract some roots from the ground and strip them back with your fingernail. If it is moist and a healthy whitish colour inside, the plant is likely to be alive. If the root snaps or crumbles, it is probably dead.

## Mitchell grass vigour guide



Low

A plant that has responded with low vigour may display some of the following:

- Greening of existing stems
- Very little new leaf produced
- Small sections within the tussock responding (as illustrated by the picture)
- Some new tillers being produced at base of plant.
- Very few if any seed heads produced
- Not much useable forage is produced



High

A plant that has responded with high vigour may display some of the following:

- Entire tussock has responded with new growth
- Existing stems are green and produced leaf
- Large numbers of seed heads have been produced
- Has grown a good bulk of useable forage
- Many new tillers being produced from the base of the plant.

## Further Information

Copies of the following information and publications are available from your nearest DPI&F Client Information Centre or DPI&F Shop Online:

- *Managing Mitchell Grass - A Grazier's Guide*, by Ian Partridge.

DPI&F Notes in this series including :

- *Mitchell grass – Australia's own grass*
- *Mitchell grass – identifying the four species*
- *Mitchell grass – safe burning*
- *Mitchell grass – long term wool production and grazing pressure*
- *Mitchell grass – post drought survival*
- *Mitchell grass – enhancing drought recovery.*

Contact the DPI&F Call Centre open from 8.00 am to 6.00 pm Monday to Friday (telephone 13 25 23 for the cost of a local call within Queensland; interstate callers 07 3404 6999), email [callweb@dpi.qld.gov.au](mailto:callweb@dpi.qld.gov.au) or visit the DPI&F website [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)

Contact David Phelps or Lyndal Rolfe DPI&F Longreach on 07 4658 4400

