

Pasture dieback

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'Dieback' is a term used to describe a range of conditions across a broad range of plants from grasses to trees. The dieback symptoms observed in summer growing grasses are the same or similar to buffel grass dieback found in the 1990's. The term pasture dieback refers to dieback in pasture grasses.

Current situation

Pasture dieback is a condition killing large areas of sown and native grasses in Queensland. Pasture dieback was first identified in Central QLD and has now spread to Far North QLD, Southern QLD and the NSW border.

NSW agricultural industries could potentially be impacted by the condition. Pasture dieback can affect pastures on all soil types and landscapes. Livestock avoid grazing affected areas.

Description

Pasture dieback affects sown and native summer growing grasses. Symptoms begin with yellowing and reddening/purpling of leaves (Figure 1). Discolouration affects the oldest leaves first and typically starts at the leaf tip and progresses along the leaf blade.

Affected plants initially become stunted and unthrifty. They are commonly shorter, have



Figure 1 Pasture dieback affected plant showing red/purple discolouration of the leaves.

fewer leaves and produce smaller seed heads. They also have smaller root systems.

Individual affected plants merge to form small patches less than one metre. These patches will increase and can cover large areas across the landscape. The affected plants are unpalatable to livestock, die and areas are invaded by broadleaf species (Figure 2).

Symptoms are most evident when pastures are actively growing at the start of the growing season in spring or following significant rainfall during summer and autumn.

Pasture dieback



Figure 2 Infected patches can start with a few plants and spread to affect large areas.

Distribution

Pasture dieback has been found in Northern, Central and Southern QLD. A number of cases have been reported in Northern NSW, however none have been confirmed and other causes of plant death cannot yet be ruled out.

Species affected

To date pasture dieback has only been reported to affect summer-growing grasses and a single case of dieback in an annual ryegrass forage crop has been reported.

Sown species known to be affected include:

- Buffel grass (*Cenchrus ciliaris*)
- Digit grass (*Digitaria eriantha*)
- Rhodes grass (*Chloris gayana*)
- Green and Gatton panic (*Megathyrsus maximus*)
- Bambatsi panic (*Panicum coloratum*)
- Kikuyu (*Pennisetum clandestinum*)
- Paspalum (*Paspalum dilatatum* and *P. plicatulum*)
- Creeping bluegrass (*Bothriochloa insculpta*)
- Sabi grass (*Urochloa mosambicensis*)
- Signal grass (*Brachiaria decumbens* syn. *Urochloa decumbens*)
- Para grass (*Brachiaria mutica* syn. *Urochloa mutica*)
- Setaria (*Setaria sphacelata*)

- Purple pigeon grass (*Setaria incrassata*)
- Forest bluegrass (*Bothriochloa bladhii* ssp. *glabra*)
- Indian couch (*Bothriochloa pertusa*)

Other species known to be affected include:

- Black spear-grass (*Heteropogon contortus*)
- Forest bluegrass (*Bothriochloa bladhii*)
- Golden beard grass (*Chrysopogon fallax*)
- Giant rat's tail grass (*Sporobolus pyramidalis*)

There are potentially more grass species that could be affected.

Cause

Pasture dieback appears to be a complex interaction of multiple contributing factors including the environment. A couple of insects have been identified as potentially causing pasture dieback. Research to identify the causal agent is ongoing.

Control

Several techniques are being evaluated for the management of pasture dieback. Control measures are difficult to determine when the causal agent has not been identified. Cultivation and burning have been shown to be ineffective in controlling pasture dieback.

Actions to minimise risk

Movement of dieback affected hay is a potential cause of spread. Source hay from reputable suppliers, especially pasture grass hay e.g. Rhodes grass.

Put in place best practice biosecurity actions to prevent entry, establishment and spread:

- practise "Come clean, Go clean"
- ensure all staff and visitors are instructed in and adhere to your

Pasture dieback

business management hygiene requirements

- monitor your grass pastures and crops regularly, especially after rainfall
- keep records

How do I report it?

If you suspect symptoms of pasture dieback in NSW:

- Contact the Exotic Plant Pest hotline 1800 084 881
- Email biosecurity@dpi.nsw.gov.au with a clear photo and your contact details
- Complete the [online reporting form](#)

Available from:

<https://www.dpi.nsw.gov.au/biosecurity/report-a-pest-or-disease>

Acknowledgements

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Available from the Future Beef website

<https://futurebeef.com.au/knowledge-centre/pasture-dieback/>

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