



Root Decline

› Causal Agent: *Gaeumannomyces graminis* var. *graminis*

› Susceptible Turfgrass

Warm season turfgrass, chiefly *Cynodon* spp.

› Symptoms

- Irregular shaped, chlorotic patches from 20cm to 1m in diameter.
- Patches once established continue to spread throughout the year.
- Roots, rhizomes and stolons turn off white to dark brown in colour.
- Dark black hyphae can be visible on root tissue as the fungus begins to colonise the root system.
- Root length and density is compromised as roots die off and become black.
- Patches of infected turf eventually die back with foliage turning tan to dark brown.
- New shoots may recolonise infected areas but soon become infected and die back.
- Patches may enlarge to reach diameter of 5m or more.
- Affected patches do not usually heal rapidly and the centres are invaded/ colonised by weeds.
- Less severely infected tissues often bear dark strands of mycelium oriented primarily parallel to the root axis.

› Conditions Favouring Disease

- Generally more active in spring and autumn months.
- Has a higher tolerance to warm temperatures (>25°C) than Take All Patch.
- Greatly enhanced on turfgrasses grown in soils with high pH.
- Increasing acidity tends to suppress this disease.
- Soil conditions favouring the disease include, light texture, low organic content, low or unbalance fertility, soil pH above 5.5.

› Management Tips

- Use acidifying fertilisers
- Apply moderate to high levels of phosphorous, potassium and minor elements where these nutrients are depleted from the soil.



- Apply biostimulants to trigger root recovery following infection.
- Improve drainage of turf.
- When liming apply the coarsest grades of lime to avoid rapid changes in pH.
- Removal of diseased patches and re-sodding where small areas are affected.
- Preventative systemic fungicide applications.

› General Comments

- Root Decline is an ERI disease that can affect all warm season turf grasses though is a key pest of couch grasses.
- Symptoms can be seasonally recurring and difficult to control.

› Distribution

Found in all states of Australia.