

HOW TO IDENTIFY *GANODERMA* BASAL STEM ROT ON PALMS

The purpose of this technical note is to assist staff to identify a common disease of single-stemmed and tufted palms, and to disseminate information on control measures.

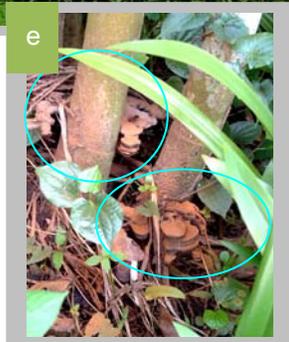


BRIEF INFORMATION ON DISEASE

Many palms in parks and roadsides are infected by *Ganoderma* basal stem rot. Some of the palms are: *Ptychosperma macarthurii*, *Dypsis lutescens*, *Cyrtostachys renda*, *Elaeis guineensis*, *Roystonea regia*, *R. oleracea*, *Oncosperma horridum*, *Alexandrae* sp., *Livistona drudei*, *Arenga vulgare*, *A. westerhoutii* and *Dypsis decaryi*. The *Ganoderma* species that attacks palms is likely to be closely related to *Ganoderma boninense*, the causal agent of basal stem rot of *E. guineensis* in Malaysia, Indonesia and Papua New Guinea.

Disease symptoms on tufted palms

- browning of leaves progresses from older fronds towards spear, followed by browning of entire crown; crown detached from trunk, leaving a telephone pole-like trunk behind (Figures a & b).
- early symptoms on lower trunks include discolouration coupled with sap flow; tissues below discoloured portions ranged from yellow, dark brown and black (Figure c).
- presence of many brown bracket-like fruiting bodies (basidiocarps) on badly decay lower trunks of severely infected palms (Figures d, e & f).



Disease symptoms on single-stemmed palms

- withered and droopy old fronds hanging on crown for months. Dry fronds do not snapped off at the rachis (Figure g).
- new growth is always slow, reduces in size, develops a pale-green to yellowish cast.
- symptoms on lower trunks of infected palms include blackening of barks and tissues below (Figures j & k).
- presence of many brown bracket-like fruiting bodies on badly decayed lower trunks (Figures h, i, k & l).



CONTROL MEASURES

The most effective control is avoidance and prevention achieved by good cultural practices such as regular fertilizing with suitable fertilizers, adequate watering during severe drought, avoiding injury to the bases of trunks and immediate removal of diseased palms from sites.

The removal of all root systems, stumps and trunks of *Ganoderma* infected palms will prevent fruiting bodies (basidiocarps) from forming, thus preventing future airborne spread of *Ganoderma* via basidiospores (Figures i & l). The removal of fruiting bodies on infected palms by hand is also recommended before the whole palms or cluster of palms can be removed. For tufted palm species removal of the whole cluster of palm is recommended even though only one or two trunks are infected. The soil contaminated by *Ganoderma* at the planting site should either be replaced with clean soil or thoroughly drenched with tridemorph (Calixin 84.3%EC).

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