

Basal Stem Rot (BSR) in Palm

Basal Stem Rot (BSR) disease caused by *Ganoderma boninense* is the most destructive disease in oil palm and is of major economic importance, especially in Indonesia and Malaysia.

The available control measures for BSR disease such as cultural practices and mechanical and chemical treatment have not proved satisfactory due to the fact that *Ganoderma* has various resting stages such as melanised mycelium, basidiospores and pseudosclerotia. The pathogen is spread via airborne basidiospores, root contact with infested soil, and root graft transmission. It can spread horizontally in the soil up to around 2m from diseased to healthy host roots. Basidiospores infect wound sites on trunks or the cut ends of palm fronds.

Astute observations of the low incidence of disease due to pathogenic *Ganoderma* species in some natural stands, suggest that the disease is most likely kept under control by some biological means. Due to these observations, recent control measures to overcome the *Ganoderma* problem are now focused on the use of biological control agents. There are an abundance of studies showing that *Trichoderma* species inhibit the growth of *Ganoderma* species and is the most promising of all biocontrol agents for *Ganoderma*.

This inhibition has been confirmed by excellent studies by such esteemed research institutes as: the Indonesian Oil Palm Research Institute; the Department of Plant Protection, Universiti Putra, Malaysia; the Department of Biology, University of Putra, Malaysia; the Center for Plant Protection Studies, Tamil; and the Nadu Agricultural University, Tamil, Nadu, India.

These studies have mainly been in glass houses, with some field observations and some field trials. Almost all of these studies have shown that *Trichoderma spp.* which are saprophytic fungi with high antagonistic activities against soil-borne pathogens, is the most likely candidate for a biocontrol product for *Ganoderma*.

Application

The situation that would show the most benefit with biocontrol measures would be with soil augmentation at the time of planting of the new palm trees where *Trichoderma* could be incorporated in the root system and in the soil around the new tree. It would also be valuable for protecting the root system of mature trees by surface application to the soil up to six feet around the base.

This information sheet was downloaded from:
<http://www.emtec.co.th/basal-stem-rot-bsr-in-palm.html>