

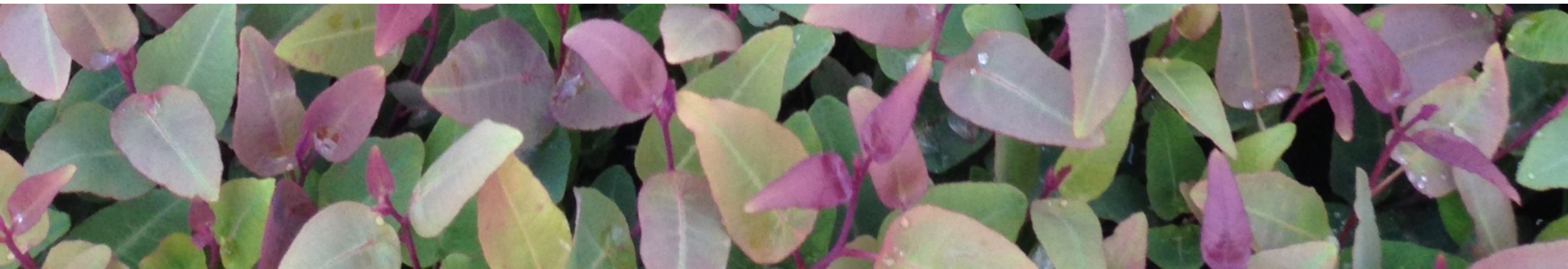


Dealing with plant health issues in the nursery environment

Trudy Paap  
01 March 2023

# Reducing the risk of pests entering and becoming established in your nursery

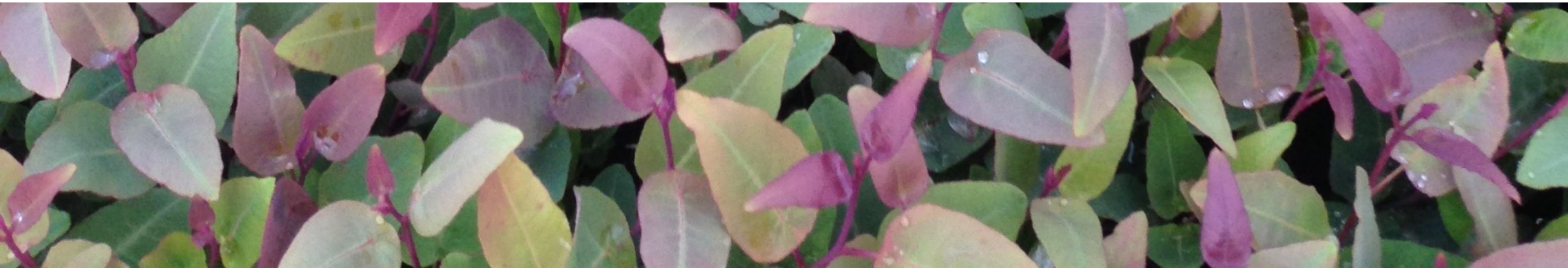
- biosecurity
- best practice and why it matters





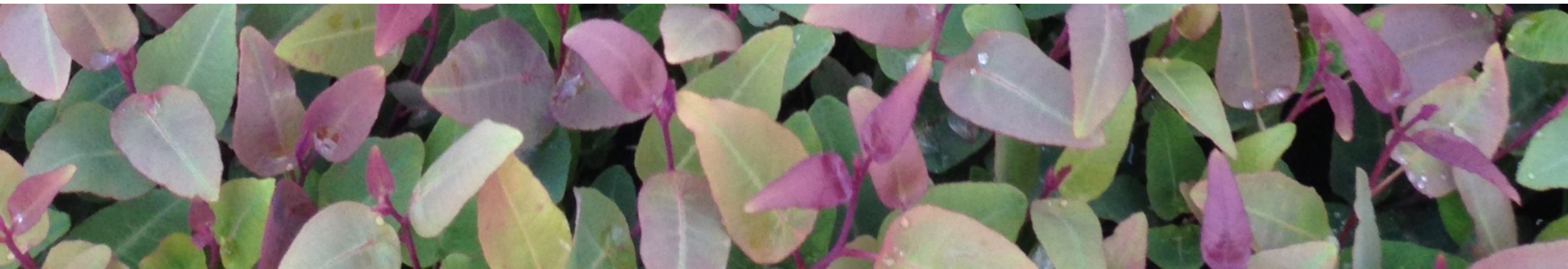
# Managing risk: biosecurity & hygiene

- Biosecurity measures are precautionary steps aimed at reducing the risk of introducing or spreading harmful organisms
- Pathway: any means that allows the entry or spread of a pest
  - introduction into the nursery
  - spread within the nursery
  - spread from nursery to surrounding environment



# Managing risk: biosecurity & hygiene

- Pest and disease outbreaks can cause economic and environmental impacts
- Relevant legislation:
  - Agricultural Pests Act, 1983 (Act No. 36)
  - National Environmental Management: Biodiversity Act (NEMBA, 2004)  
Alien & Invasive Species List, 2020





growing media



plant material



water



vehicles & nursery workers



# Use clean, pest free inputs

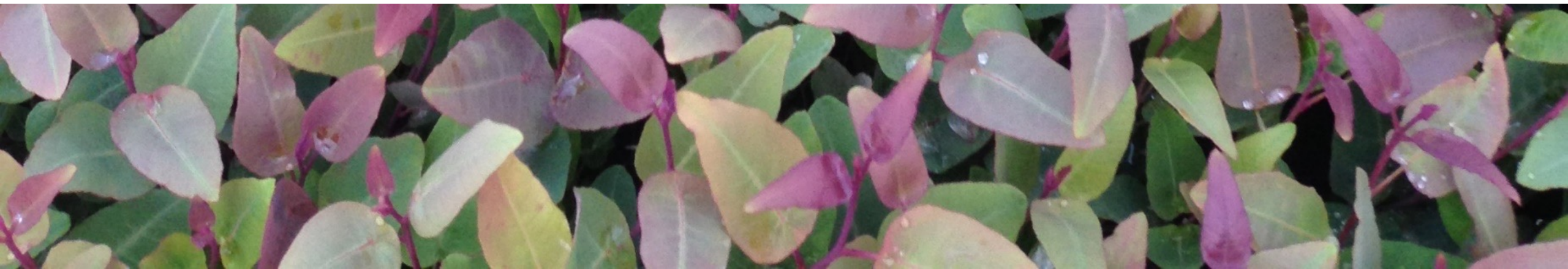
- growing media, trays/pots
  - use reputable suppliers
  - “clean” storage area
  - where possible pasteurise
  - keep records of inputs





# Use clean, pest free inputs

- propagation material
  - different types of material carry differing levels of risk
  - purchase from trusted sources
  - visual inspection – but note that not all pests show symptoms in all hosts
  - maintain and monitor motherstock plants
  - keep records





# Use clean, pest free inputs

- water
  - test
  - treatment?





# Use clean, pest free inputs

- tools / machinery / vehicles / staff
  - hired
  - contractors
- Any equipment / vehicles should come into the premises clean
- Provide scrubbing brushes, foot baths protective clothing, disposable overalls
- Communicate expectations to staff and contractors





# Reducing the risk of spread within the nursery

- Keep it clean !! – practice good sanitation and hygiene
- Good hygiene practices undertaken during potting and propagation will minimise the chance of pest spread
- The facilities and areas where these practices are undertaken should be separated from production areas





# Reducing the risk of spread within the nursery

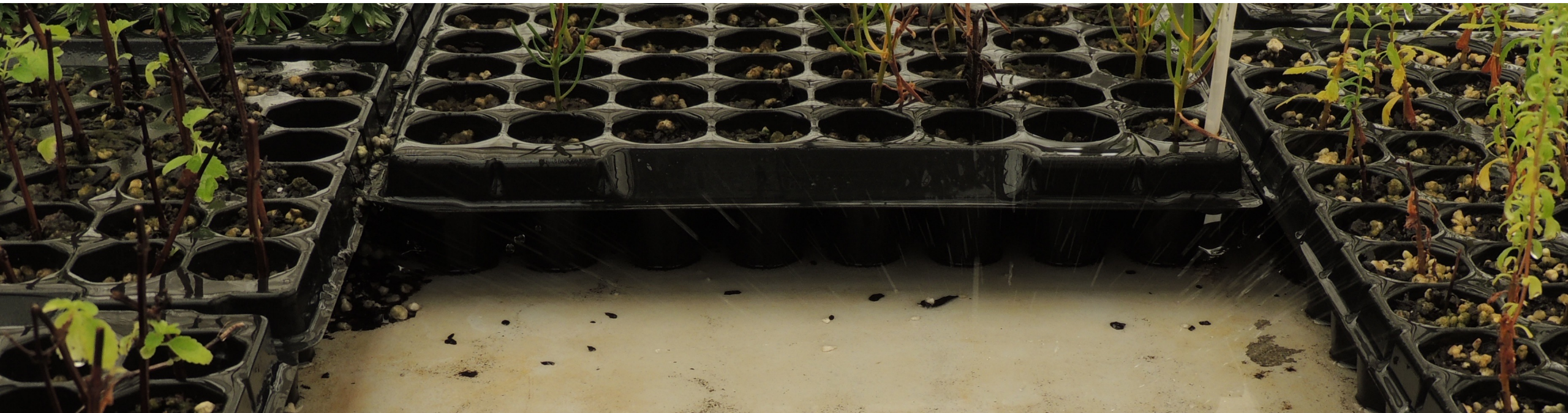
- keep it clean !! – practice good sanitation and hygiene
- Benches and tools used for propagation should be regularly washed and disinfected, preferably between each batch of media or plant material
- Potting containers should be clean and disinfected before use
- Spilt material and plant waste should be collected and discarded regularly





# Reducing the risk of spread within the nursery

- Water:
- Keep areas around water storages free of plant waste and other potential sources of infestation
- Manage water use to avoid ponding (use appropriate system, nozzle size etc)





# Reducing the risk of spread within the nursery

- Monitor and rouge out any infected material frequently (dispose appropriately)





# Reducing the risk of spread within the nursery

- Keep areas free of weeds
- Avoid plants being in direct contact with the ground





# Reducing the risk of spread within the nursery



Photo: Brett Summerell



# Reducing the risk of spread within the nursery





# Monitor frequently

- keep records (written and photographic)
- know the common nursery pests
- report unusual things

## Crop monitoring record

Business name: \_\_\_\_\_

Person monitoring: \_\_\_\_\_ Date: \_\_\_\_\_



Area monitored (e.g. green/shade house, bed)	Crop	Plant number sampled	Indicated presence or absence (Y/N)			Physiological problems present	Comments/actions
			Insect (list and include quarantine insects)	Disease (list and include quarantine disease)	Weed (list and include declared weeds)		

This crop monitoring record has been taken from the BioSecure HACCP manual





## FABI News

[News Archive](#)



## FABI Events

[Future Events](#) | [Past Events](#)

- 23 February 08h30 Student Seminars
- 27 February 08h30 Monday Morning Meeting
- 02 March 08h30 Student Seminars
- 09 March 08h30 Student Seminars

## FABI in a nutshell

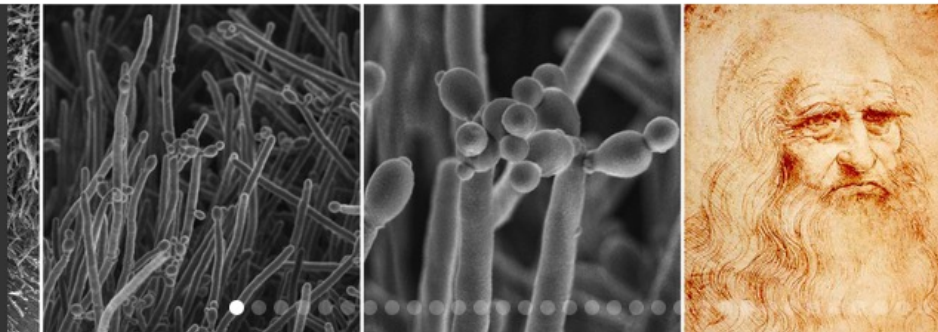


## Research Features

[Archive](#)

Da Vinci's Yeast: FABIans Prof. Cobus Visagie, Dr Neriman Yilmaz, and their collaborators have recently described and named a newly discovered yeast species of the famous Italian painter, draughtsman, engineer, scientist, theorist, sculptor, and architect Leonardo da Vinci.

[Read More](#)





# Pest and pathogen profiles

www.fabinet.up.ac.za/tpcp/forest-threats




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Pine pitch canker and Fusarium wilt



*Teratosphaeria destructans*



Armillaria root rot



Calonectria leaf blight (CLB)



Chrysosporthe canker



Diplodia shoot, Sphaeropsis die-back



Lophodermium needle cast



Mycosphaerella leaf blotch (MLB),  
Mycosphaerella leaf disease (MLD)



Myrtle Rust





**Eucalyptus cossid moth**



**Blue gum chalcid**



**Bronze bug, Winter bronze bug**



**Eucalyptus gall wasp**



**Eucalyptus snout beetle**



**Pine brown tail moth**



**Pine emperor moth**



**Pine Weevil**



**Polyphagous Shothole Borer**



# FABI Diagnostic Clinic

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## FABI Diagnostic Clinic



The Diagnostic Clinic provides a free disease diagnostic service to its members and partners. In this way, plant disease and pest problems can be readily identified and solutions to these problems sought. Information accumulated through this service is added to the FABI database on diseases and ensure a long term record of trends associated with pest and pathogen outbreaks. In addition, selected isolates and specimens of important disease agents are stored using state of the art technologies. These cultures and specimens are a critical resource for plant health research in the country. E.g. living cultures can be used for screening disease tolerance and in determining genetic variability overtime.

### Collection of Samples

- To ensure accurate diagnoses, special care must be taken when collecting samples. Try to collect samples that accurately represent the disease symptoms at hand. Many disease symptoms are subtle, e.g. those associated with root disease are often identical to those from basal stem cankers.
- Collect tissue representing the primary symptoms concerned. In the case of root or stem diseases, these samples should preferably be from plants that are in the process of dying and should include both diseased and healthy tissue. Where possible, send the whole plant. Soil should always accompany root samples when a root problem is suspected. If possible, include samples from at least five plants.
- Insect specimens, such as beetles, larvae or moths should be sent in small vials filled with surgical alcohol. Where possible, please keep insect samples separate from plant samples using a ziplock bag.

Free diagnostic service to TPCP members and nurseries supplying commercial forestry

other enquiries also accepted

Clinic Manager:

Dr. Lieschen De Vos

Tel: +27 12 420 3938/5826

Email: [lbahlman@fabi.up.ac.za](mailto:lbahlman@fabi.up.ac.za)