



## GUIDE FOR COLLECTING SAMPLES TO TEST FOR PHYTOPHTHORA

The following steps are a guide for collecting and handling samples for testing for Phytophthora by Parks and Wildlife's **Vegetation Health Service (VHS)**. It is important to handle samples carefully during and after collection, and in delivery to the VHS laboratory. This will ensure the best chance of survival of any Phytophthora that may be present, allowing for the best possible result from testing.

### General points

- ❖ Sampling and laboratory testing can verify field observations of dieback distribution based on interpretation of symptoms seen in indicator plant species. Testing isolated plant deaths in the natural environment is important, as it may identify a new infestation at an early (and potentially manageable) stage
- ❖ Most laboratory testing involves baiting samples (containing soil plus roots) collected beneath plants suspected of being infected with Phytophthora
- ❖ If testing a plant for root infection is required, the roots are surface sterilised in the laboratory and individually plated to see if Phytophthora can be isolated from internal root tissues (carried out on request)
- ❖ The **Vegetation Health Service (VHS)** isolates suspect Phytophthoras, which are then identified to species. Results are added to the **VHS** database, and selected Phytophthora isolates are added to the **VHS** culture collection
- ❖ The process can take two (2) to four (4) weeks, or longer if unusual Phytophthora species are found
- ❖ Results are sent directly back to the sender

### Collecting samples

1. Check the area carefully, and see if a *disease front* can be located by observing the presence of plant symptoms
2. Where possible, sample only dying or recently dead indicator species (or other plants susceptible to dieback). Long-dead plants (branches bare of foliage or remaining leaves coloured brown to grey) are less suitable for finding Phytophthora
3. Clean off any soil and sterilise **mattock or spade** fully with **methylated spirits** (from **spray-bottle**), and allow to dry before taking **each** sample. The same process should be used on any tools used in handling samples (**trowel, secateurs**, etc.)
4. Clear away plant debris and surface soil from around the base of plant, exposing some roots
5. Collect **roots and soil** from **four (4) sides** of the plant, along with small sections from the root collar and main lateral roots. Root pieces should be no thicker than 2cm in diameter. If possible, try to locate a **root lesion** and include a piece of affected tissue in the sample (the best place is from the **leading edge of the lesion** where it meets healthy tissue, as Phytophthora will probably be active there)
6. Place the soil and roots sample in a **thick plastic bag with cable-tie** to seal (total of soil should be about 1kg). If soil is very dry, moisten with some **distilled water**. If roots and collar tissue are to be surface-sterilised, bag separately from the soil sample
7. Seal and label bag(s) clearly with a **permanent marker** that will not rub off in transit
8. Place the bagged sample **immediately** in an **esky with cooler-bricks** to keep it cool. Keep the esky out of the sun and never transport it in an exposed position, for example the open back of a ute
9. **Do not** leave samples in the sun to heat up or dry out
10. Prior to sending to the VHS, samples should be kept cool but **do not** place them in a fridge

### Sending samples for testing

- ❖ Deliver samples to the **VHS** laboratory as quickly as possible after collection
- ❖ Samples are to be accompanied by a completed **VHS Sample Information Sheet**, with all columns filled in and map references
- ❖ Please advise the laboratory in advance if a large number of samples (more than 10) are being sent for testing
- ❖ **Sender should pay transport or postal costs.** If sent by courier, bags should be securely packed in a box

**Address to:** Vegetation Health Service, Ecosystem Health, Forest and Ecosystem Management, Department of Parks and Wildlife, Locked Bag 104, Bentley Delivery Centre, Western Australia, 6983

**Deliver to:** Vegetation Health Service, Ecosystem Health, Forest and Ecosystem Management, Department of Parks and Wildlife, 17 Dick Perry Avenue, Kensington, Western Australia, 6151