

Precautions against spreading *Phytophthora* diseases

Phytophthora ramorum and ***Phytophthora kernoviae*** are fungus-like organisms that cause diseases that can affect many kinds of trees and shrubs. They are difficult to control once an outbreak occurs. Mild winters and wet summers increase the risk of these diseases spreading.

In this current *Phytophthora* outbreak on larch trees, the main ways in which the spores of the disease can be spread are...

- Rain splashing on infected needles and leaves;
- Wind, wind borne mists and water courses;
- Movement of infected plants;
- Movement of contaminated soil, leaves or needles from infected trees and shrubs stuck to footwear, clothing, timber, vehicles and equipment

We can't do much about the weather but we must do all we can to reduce the risk of carrying the spores around with us within and between woodlands. **Tree needles and soil are the main risks, especially if they are wet.**

This guide sets out a number of **simple precautions that must be taken** on any known *Phytophthora* control site (either confirmed or suspected). The aim of these precautions is to prevent the transfer of needles and soil on people, vehicles and bark.

Footwear

The main precaution is for everyone to ensure that footwear is first cleaned of all soil, needles and plant debris and then disinfected before entering or leaving a control site. The use of wellington boots will assist with this.

Before entering a *Phytophthora* control site...

- Footwear must be clean and free from soil and plant debris. The footwear should be sprayed with Propellar™ and left until it has evaporated.*

Before leaving a *Phytophthora* control site...

- Footwear must be washed off on a hard standing near the entrance to the wood using a stiff brush and water. It is essential that all traces of soil be removed.
- The brush for this must be kept on site in a bucket of disinfectant.
- After cleaning, footwear must be sprayed with Propellar™ and left until it has evaporated.
- Care must be taken to ensure that any water run-off does not enter watercourses.

Broad-spectrum farm disinfectants are not effective against *Phytophthora*

Phytophthora Control Sites - Operational Precautions

Clothing

Needles and leaves can get stuck in and on clothing.

Before leaving a Phytophthora control site...

- Needles and debris on clothing must be shaken out or brushed off before leaving the site or getting into a vehicle.
- Check inside footwear, hoods, outer pockets and collars. Remember to check any protective equipment such as helmets, ear-defenders, felling gloves and protective over-trousers.
- Wet clothing **MUST** be changed before moving between sites. Wet clothing must be bagged and laundered before re-use, or washed down and disinfected. The use of waterproof outer clothing and leggings will help with this precaution.

Tools

Hand tools and motorised tools used on infected sites for cutting and digging may become contaminated, especially if wet.

- If any work (e.g. pruning) is to be carried out on an uninfected tree or shrub on a Phytophthora control site, tools must be disinfected or 'flamed' before being used

Before leaving a Phytophthora control site...

- Chainsaw bars, chains and side covers must be removed and cleaned as thoroughly as possible to remove debris. Where it is appropriate and safe to do so, Propellar™ disinfectant may be applied and left to evaporate.
- Other hand tools and equipment such as tapes, cant hooks, wedges, fuel cans, tools and toolboxes must be cleaned off and surfaces brushed with disinfectant before being moved to another site.

Do not give the disease a lift to another site

Phytophthora Control Sites - Operational Precautions

Vehicles, lorries and machines

Special care should be taken to ensure that vehicle tyres and lorry beds are free of loose soil and debris before leaving any Phytophthora control site.

Before entering a Phytophthora control site...

- Consider whether the vehicle needs to enter the site at all. If you can, park off site and walk in.
- Share vehicles wherever possible to reduce the number of vehicles that need to enter the site.
- When on site, road vehicles should stay on stone roads wherever possible and be parked in areas that are as free of larch needle and debris as possible.

Before leaving a Phytophthora control site...

Off-road vehicles

- Machines, plant and any road vehicles that have been driven off hard surfaced roads onto an infected site must be cleaned on a hard standing beside a surfaced forest or council road. A pressure washer should be used, preferably one that uses hot water or steam. Care must be taken to ensure that any water run-off does not enter watercourses.
- This cleaning should focus on removing as much mud and needle debris as possible focusing on tyres, wheels, mud flaps, sills, wheel arches, guarded areas and anywhere else where mud and needle debris may have accumulated. Cab floors and pedals should also be checked and cleaned.
- After cleaning, tyres should be disinfected with Propellar™ or other disinfectant approved for use against Phytophthora.

Road Vehicles

- Haulage vehicles and other road vehicles that stay on stone surfaced roads may require a sweep down to remove loose debris before leaving the site. This is especially important in wet weather.
- **The drier and cleaner the road surface is the less the risk of transferring the disease on wheels will be.** If surfaced forest roads and loading bays become muddy or covered with bark and debris, they should be scraped off and preferably allowed to dry before continuing use. As a general rule, if mud or debris is adhering in clumps to the **sidewalls** of road vehicle tyres then the forest road surface requires attention, or must be allowed to dry, before loading continues. Otherwise the wash down procedures applicable to off-road vehicles will need to apply.

**Disinfectants are NOT effective on soiled surfaces.
Broad-spectrum farm disinfectants are not effective against *Phytophthora***

Phytophthora Control Sites - Operational Precautions

Stacking and Loading considerations

Picking up needles, leaves and other debris when handling and bringing wood from control sites to roadside is a major issue in these control procedures.

When working with timber on a Phytophthora controlled site...

- Minimise the accidental pick up of brash, leaves or other debris when moving timber in the wood and at roadside. Move the material as necessary to knock off needles and debris and to allow a clean pick up.
- Avoid placing timber back on the ground if possible especially in muddy conditions. Stack logs on bearers where it is safe and possible to do so.
- Stacked logs from control sites must not be placed in contact with live plants and foliage of other potentially susceptible trees and plants such as rhododendron, bilberry, larch, sweet chestnut and beech. Clear a stacking site first as necessary.
- If the lack of stacking space means that stack heights must exceed the recommended 2m, pay special attention to stability and shoulder slopes, and use warning signs if members of the public could access the stacks.
- Scrape the roads and allow to dry as much as possible if mud starts to adhere to the sidewalls of haulage vehicle tyres. Remove any debris from transfer and loading points as often as possible. Place this debris in a segregated area where road vehicles will not come into contact with it.
- Try to arrange loading sites to avoid forwarders travelling on the same route as road lorries as much as possible (e.g. forwarders only travel behind the stacks and not on the road itself).

Keep stacking and loading sites organised and clean

Phytophthora Control Sites - Operational Precautions

Wood Processing Facilities

The requirements are to keep logs or other Phytophthora affected wood separate from other material as required, and to ensure that all bark or co-product with bark attached or mixed in, is properly disposed of as soon as practicable by burning.

When bringing in round wood from a Phytophthora control site...

- Round wood must be stacked separately from other material, preferably on hardstanding and away from any growing trees and plants such as rhododendron, bilberry, larch, sweet chestnut and beech.
- After unloading material from the forest, lorries must be swept clean of needles and other debris on the hard standing. The debris must be segregated and properly disposed of as soon as practicable.

When processing timber from a Phytophthora control site...

- If used, debarking processes must be effective.
- After processing Phytophthora affected wood and before handling unaffected wood, log decks, conveyors and other equipment used to handle timber with bark on, must be swept off to remove debris. Debris is to be placed in a contained storage area for disposal by burning in line with relevant regulations as soon as practicable. If all wood processed can be treated as Phytophthora affected wood regardless of the source of the material then such clean downs can be reduced.
- Co-products that contain bark from a Phytophthora affected wood must be isolated from all other products and burnt in line with relevant regulations as soon as practicable. If co-products are not segregated for practical reasons, all the material must be treated as Phytophthora affected material.

Products and Co-products with bark

Bark or any other product derived from timber from a Phytophthora control site, and which has bark included or attached, can harbour needles and spores and so can transfer the disease to other living plants and trees.

- These products and co-products must be burnt. This can be as woodfuel (preferred) or as cleanly incinerated waste.
- Transport of these co-products to the burning facility must be in an enclosed vehicle, which must be swept clean of bark and other residues before leaving the receiving site.

Products that are free of bark have no restrictions on their use.

- Lorries must be clean of any needles or debris before loading with finished product.

No product containing cambium or bark from Phytophthora affected wood can be allowed to enter into the horticultural supply chain or have any use associated with gardens or live plant material.