

## Road Haulage and Processing of Wood taken from sites infected with *Phytophthora ramorum*

### Context

1. Tests have shown that logs from infected larch trees can host *P. ramorum* but the pathogen only sporulates from the foliage (needles).
2. It should be noted that on infected sites, not all trees are infected, and on infected trees, not all of the bark is infected.
3. The bark and cambium (and possibly the outer sapwood) of logs cut from infected trees will contain the pathogen. *P. ramorum* can persist on log material, but is only likely to infect new susceptible host plant material, if in direct physical contact.
4. Once the pathogen is established on the live green plant material active sporulation may occur. Therefore, infected logs can only be considered potentially "infectious" if placed in direct physical contact with a susceptible live host.
5. In addition, both uninfected and infected logs may become surface "contaminated" and act as "carriers" of infected plant material (e.g. needles).

### Risks of disease transmission during road haulage of logs

6. If logs are loaded within the woodland and taken directly to an authorised processing site, then the risk of logs coming into direct physical contact with a susceptible host is low.
7. There is some evidence emerging that the bark of infected trees is being shed more easily during harvesting operations compared with bark from uninfected trees. If loose bark is shed during transit there is a risk that this material may get transferred into the wider environment and then in contact with a live susceptible host. This risk is assessed as low.
8. Infected plant material, such as needles, carried on logs can be dislodged during transit. There is a theoretical risk that this infected material could, if it comes into contact with susceptible foliage that is wet enough to allow the

spores to germinate, spread the infection. We consider this to present a low risk.

9. These risks are assessed as substantially less than those posed by retained sporulating hosts. They are also significantly lower than potential risk of transmission via contaminated mud and infected leaf litter retained on machinery moving from infected sites to other sites containing susceptible host plants.

## Summary of risk for road haulage of logs

10. In light of our current knowledge of the disease and the potential transmission pathways our assessment is that the potential risks during road haulage of wood is sufficiently low to permit movement under licence. This is subject to current biosecurity measures being applied within the woodland (e.g. only loading logs stacked on bearers and on to swept down lorries). Transport on this basis allows good record keeping including trace back/trace forward records of the source of infected logs and their point of destination.

## Risks of disease transmission through processing of logs

11. The pathogen can exist within the bark, cambium and possibly the outer layers of sapwood beneath. During processing, the way in which this outer material is separated, further processed and subsequently used are factors determining the risks of disease transmission.
12. Round logs are “squared” by either a direct chipping process or sawing or machine rounding on a lathe to create a uniform cross section. Debarking is sometimes done first to create a separate product, often used in horticultural trade.
13. Because there is minimal risk of residual infection in the sawn or machined timber, subsequent sale and distribution of any products derived from this part of the log represents little additional risk for disease transmission..
14. The bark, slabwood or woodchips from the outside of the logs can be burnt on site for heat but are normally sent onward to another facility. If this facility subsequently burns the material for heat or puts it through another process applying high temperatures (such as pelletised fuel or board manufacture) then this is deemed a biosecure method of using the material and reduces the risk of further disease transmission to very low.
15. Most processing sites handling roundwood would also normally sell some of the bark, slabwood or woodchips into other markets such as horticultural use,

compost and outdoor surfacing. The traceability of such products and the risk of returning into the wider environment and coming into contact with susceptible host plants is high and deemed unacceptable. Consequently all these co-products must go through a facility that involves burning or sufficiently high temperatures to eliminate the infection.

16. All processing sites handling roundwood will have a quantity of yard sweepings arising from stacking and handlings of logs. These must be collected and either added to co-products sent for a biosecure use or incinerated on site or at an incineration facility elsewhere.

### Risk Assessment

17. The table in Annex 1 sets out an assessment of the risks at each stage from woodland site, road haulage and processing of timber. It explains the assessed risk levels and the mitigation measures that should be applied. The clearance of infected trees and shrubs is considered necessary to meet the objective of the joint Fera/FC Programme to reduce the level of inoculum to epidemiologically insignificant levels.

Annex 1: Risk Assessment for Road Haulage and Processing of Timber from Sites Infected with *Phytophthora ramorum*

Source of Infection		Spread Risk	Reasons for Risk level	Mitigation to reduce risk
<b>Sporulating Hosts</b> (actively producing spores)	Canopy (trees)	Highest	Canopy level sporulation – atmospheric spread over larger distances. Larch needles lightweight and more readily dispersed over distance. No controls possible on dispersal. Needles cast in autumn.	<ul style="list-style-type: none"> <li>• Fell trees to halt sporulation (particularly prior to times of highest sporulation, Sept-Nov), to break the cycle of disease and reduce risk of atmospheric spread.</li> <li>• Contain infected foliage on site.</li> <li>• Consider burning of material to kill spores and reduce levels of on-site inoculum.</li> </ul>
	Shrub Layer	High	Sporulation active all year round on evergreen hosts (e.g. rhododendron)	<ul style="list-style-type: none"> <li>• Cut and kill infected material (can sporulate year round).</li> <li>• Consider burning of material to kill spores and reduce levels of on-site inoculum.</li> </ul>

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<p><b>Infected Plant Material</b> (carrying spores)</p>	<p>Cast Needles Foliage and Lop and Top</p>	<p>Medium to High</p>	<p>Potentially spread out of site by wind dispersal of needles, but largely contained on site.</p> <p>Transfer of disease to new host plants by physical contact.</p> <p>Largely contained within site and transfer of disease to new hosts by physical contact</p>	<p>1. Apply <b>biosecurity measures</b> to reduce incidence of infected material moving off site.</p> <ul style="list-style-type: none"> <li>• Machines – pressure washed before leaving site</li> <li>• Vehicles – parked outside woodland boundary if possible, otherwise kept on hard tracks.</li> <li>• Personnel – brush off and disinfect footwear and clothing (greater likelihood of contact with infected material)</li> <li>• Public – keep to tracks, dogs under control</li> <li>• Assess risks of organised recreation events at time of planning</li> </ul> <p>More details of biosecurity measures on the <a href="#">P.ramorum webpages</a>.</p> <p>2. Keep stacking areas and road edges clear of felling debris.</p>
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<b>Infected Plant Material</b> (carrying spores)	Logs, small roundwood – on site	Low	Timber stacked within site.  Most infected material within the bark although some external bark acting as “carrier” of spores (ie some casual contamination)	<ul style="list-style-type: none"> <li>Stack material on bearers at roadside to minimise contamination with felling debris during loading operations, and increase opportunity for drying and desiccation of the outer surfaces.</li> <li>Ensure lorries are free of debris prior to loading.</li> </ul>
	Logs and small roundwood and brash bales – in transit to processing outlets	Low	Potential to drop infected material from lorry in transit but risk of that material coming into direct physical contact with a live susceptible host is low.	<p>Apply biosecurity measures in woodland to minimise presence of contaminated material on lorry.</p> <p><b>All movement of timber off infected sites is only permitted with a Movement Licence.</b></p>
	Logs and small roundwood and brash bales at Processing Site	Low	Contained site with no susceptible host material within boundary.  Controlled situation for handling logs and products	<p>Every site processing timber from infected sites must receive authorisation to do so via a licence from a plant health inspector. The licence will state the conditions that must be applied.</p> <ul style="list-style-type: none"> <li>Stack infected material separately from other material if a separation of any uninfected products is required</li> <li>Do not stack close to water courses.</li> </ul>

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<b>Infected Plant Material</b>	Domestic Firewood logs	Medium	<p>Mainly small diameter logs from upper tree parts, therefore more likely to have infected bark and associated needles.</p> <p>Small-scale, multiple collections.</p> <p>Unknown/variable storage conditions with end-users.</p>	<p>These are my suggestions, but the risk, and how to manage the risk, probably outweighs the mitigation.</p> <ul style="list-style-type: none"> <li>Apply biosecurity measures in woodland to minimise presence of contaminated material on collection vehicles.</li> <li>De-bark all logs prior to moving off site.</li> </ul> <p>Put up warning notices preventing unauthorised removal of firewood and explaining why.</p>
<b>Infected products of timber processing</b>	Bark, slabwood and woodchips taken from peripheral parts of roundwood	Low (if mitigation measures applied)	No contact of the product with susceptible host back in the environment	<p><b>Options:</b></p> <ul style="list-style-type: none"> <li>On Site Burning: Products must be stored separately from uninfected material and then burnt on site. Infected and uninfected material can be stored together if both are to be burnt on or off site. Any short term storage on site must be on hard standing.</li> <li>Off Site Burning: Products can be sent to a woodfuel outlet (note road haulage condition above) for burning.</li> <li>An alternative process as authorised by a plant inspector</li> </ul> <p>All movement of material to a separate location for burning must be in enclosed transport and only permitted with a Movement Licence.</p>

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				<p><b>Prohibited uses:</b></p> <p>Onward movement of this material into markets that directly or indirectly lead to this material entering horticultural use (eg as compost, mulch or outdoor surfacing) is <b>not permitted</b>.</p>