

Chalara 'genie' out of the bottle so what comes next?

Dr Terry Mabbett, who broke the news about the chalara ash dieback outbreak in GI September, returns with an update on this constantly evolving issue

The chalara 'genie' is out of the bottle. By year end chalara ash dieback caused by the fungus *Chalara fraxinea* was recorded at 323 sites covering plant nurseries, recent ash tree plantings and established woodlands.

Golf courses anywhere in the UK are now at risk. There is now no chance of eradication so what's the situation and what comes next?

Many courses have young common ash trees along fairways or in the rough. Others have old ash trees in prominent positions as hedgerow relics from previous farmland. Some courses have tiny ash copses because the pioneering trees are adept at colonising any vacant land.

Under no circumstances should greenkeepers plant any more common ash (*Fraxinus excelsior*) or related species like *Fraxinus angustifolia* (narrow leaved-ash) because many are also at risk. Disease is spread by spores formed in fruiting bodies on infected leaf litter from June to October which then infect the current seasons' foliage during wet weather.

Woody tissue may already be infected thus requiring removal and destruction of affected trees, but the only symptoms are bark lesions on young trees. Even these may be absent because the pathogen has a long period of hidden infection.

Potentially infected mature ash trees are more difficult to assess. They may show crown dieback in summer - but don't jump to conclusions because many fungal diseases produce similar symptoms.

Start to inspect all ash trees now. Suspected outbreaks should be reported to the UK plant health authorities (details at the end of this article) who will advise. Young trees are relatively easy to deal with as they can be dug up and inciner-

ated on site. Leaf litter under and around infected trees should be gathered and incinerated. Biosecurity including disinfection of boots, tools, equipment and transport will be required.

Large mature ash trees could present a problem. DEFRA advises that mature trees should not undergo sanitation felling. That's fine for woodland owners but not so clear cut for golf clubs with members' safety to consider.

Common ash does not have the longevity of English oak. Trees do not have to reach a grand age and dimensions before they are designated as veteran or ancient specimens. At best, open-grown common ash trees attain 200 years before declining and dying in the following fifty years. Greenkeepers should consult local authorities, the Forestry Commission or conservation organisations like 'Ancient Tree Forum' before undertaking work on old ash trees.

Pre-emptive measures to prevent valuable old ash trees from infection are desperately needed. Dr Glynn Percival, a plant physiologist with Bartlett Tree Experts (a commercial company at the forefront of oak processionary moth control) has proposed micro-injection of pesticide, used in North America to control diseases and insect pests of trees.

During this process, ash trees are injected with a pre-determined dose of truly systemic fungicide. The fungicide moves to all parts of the tree via xylem and phloem tissue and protects the tree from infection and disease development and may eradicate existing infections providing they are not too well advanced.

Tree injection is not new and was used to manage Dutch elm disease in the 1970's, but the injectors damaged to bark to encourage

secondary pathogens. MBC (benzimidazole) fungicides had only just come onto the market and were not truly systemic (by modern systemic fungicide standards). They were unable to reach the top branches of big elm trees where bark beetles were discharging fungal 'cargoes' (spores of the *Ophiostoma novoulmi* fungus) into trees. These drawbacks were not due to any deficiency in tree injection as a concept but still left a legacy.

Modern micro-injection is obtrusive and not accompanied by collateral bark damage. Contem-

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porary systemic fungicides are like that well known beverage, accessing those parts others cannot reach.

Two problems stand in the way, one practical the other political. There are no fungicides approved by CRD (the UK's Chemical Regulations Directorate) for tree injection. Word on the grapevine is that the plant health 'mafia' is opposed to the idea. This may more to do about private sector experts treading on their 'private' turf rather than sound scientific objections.

However, they do appear to be quietly listening to what Dr Percival has to say. DEFRA has since contacted agrochemical manufacturers and asked them to put forward candidate fungicides for appraisal. If micro-injection comes to fruition, one or more of the [systemic] fungicides currently used to cure *Fusarium* patch of turf may be used to control chalara dieback in ash trees.

Reporting chalara ash dieback and obtaining information

In England and Wales:
Chalara helpline: 08459 33 55 77 (open 8am - 6pm every day) or plant.health@forestry.gsi.gov.uk

Scotland:
Forestry Commission
Scotland: 0131 314 6156 (9am - 5pm weekdays + out-of-hours messaging system) or fcscotlandenquiries@forestry.gsi.gov.uk

BELOW: Shoot dieback and leaf necrosis may start to appear in June
Picture courtesy Forestry Commission



Bark lesions on young trees are the only real sign of *Chalara fraxinea* in winter
Picture courtesy Forestry Commission

