



## **GROWN IN BRITAIN REPORT**

### **CHRISTMAS TREES – THE THREAT FROM IMPORTED PESTS AND DISEASES**

#### **WHY BUYING CERTIFIED BRITISH GROWN TREES PROVIDES THE BEST PROTECTION**

##### **SUMMARY**

Data gathered and analysed by the Defra Plant Health Risk and Horizon Scanning Team, has highlighted that Christmas trees imported from mainland Europe could have the potential to provide a pathway for new pests and diseases to enter the UK.

Each year, around £3 million pounds worth of cut Christmas trees are imported from Europe and Scandinavia.

Data extracted from the UK Plant Health Risk Register at the request of Grown in in Britain, highlights fifteen pests affecting trees of less than 3 metres which could potentially enter the UK on imported Christmas trees.

Six of these, including the pine processionary moth and Siberian fir woolly aphid, are currently considered absent from the UK and the majority of the others either have limited distribution here or their distribution is unknown.

The risks are even greater from larger display Christmas trees; those often seen in town centres or shopping malls. The Defra data identifies a further 12 pests which could enter on large cut Christmas trees, normally categorised as those more than 3 metres in height. This takes the total number of pests which could enter the UK on Christmas trees to 27, 14 of which are currently absent from this country.

Grown in Britain Chief Executive Dougal Driver says: “Christmas trees provide ideal conditions for pests to hitch a ride. The trees are usually netted during transport, which means the branches don’t dry out, and pests can remain hidden in the tightly bound branches. With climate change, the risks are rising further, as pests which are native to warmer parts of Southern Europe are increasingly likely to be able to survive in Northern Europe and the UK.”

Plant health regulations are becoming increasingly stringent to reduce the risk of disease and from December this year, it is possible that more Christmas trees will be required to have plant passports. However, there are currently no controls on the import of cut Christmas trees from the EU below 3m, the ones which are destined for homes across Britain.

The Defra data also identifies a different set of pests which could potentially be brought into the UK on imported potted Christmas trees. Pests which are present in the soil or inhabit tree roots, such as nematodes (microscopic worm-like organisms) and nematode-spread plant viruses.



The risk from these pests is not only to Christmas trees grown in this country, some have the potential to transfer to other trees and plants as well. The stubby root nematode, for example, has a range of other host plants including acer, camellias, hornbeam and brassica vegetable varieties such as broccoli and cabbage.

Grown in Britain has developed a Christmas tree certification scheme, which currently covers around 100,000 trees. It provides the only assurance that Christmas trees purchased by the customer are grown in this country, have been subject to biosecurity checks and meet robust freshness standards.

## THREATS TO CHRISTMAS TREES

Among the most significant potential threats from imported Christmas trees (below and above 3m) are six pests which are considered absent from the UK but found in mainland Europe:

Siberian fir woolly aphid (insect)

- Found in Finland, Lithuania, Norway, Poland, Romania, Russia, Sweden, Ukraine

Pine processionary moth (insect)

- Found throughout continental Europe including Denmark, Belgium, France, Germany and Spain.

Blight of pine/brown needle blight of pine (fungus)

- Found in Switzerland, France, Georgia, Germany, Hungary, Italy, Russia, Serbia, Slovakia, Slovenia, Spain and Ukraine

The remaining three are *Sirococcus piceicola*, a fungus which is only found in Switzerland, *Fusarium circinatum*, also a fungus found in Portugal and Spain, and the omnivorous leafroller moth which is highly polyphagous, but only present in Spain.

The pine processionary moth is a serious pest of pine trees in southern Europe but has been expanding its distribution and can now be found breeding as far north as Paris. The larvae feed on pine needles and defoliate, weaken and can ultimately kill Christmas trees. However, like its relation, the oak processionary moth, it is also a hazard to human and animal health. According to Forest Research, the hairs of the caterpillar can cause painful skin, eye and throat irritations and in rare cases allergic reactions.

There is also a risk that a further nine pests and fungal diseases which are already present in the UK could be spread further by imported Christmas trees. At present, their distribution is either limited or unknown, and therefore any further introduction is to be avoided. These include:



- Pine lappet moth: according to Forest Research, the pine lappet moth caterpillars are capable of feeding and developing rapidly on pine foliage in the UK
- Red band needle blight: this fungus causes needles to fall off the Christmas tree prematurely and in severe cases results in tree death.
- Stem canker, balsam fir aphid and balsam fir canker are pests which specifically target Christmas trees. Their impact will vary from severely affecting the appearance to killing the tree.
- *Phacidiopycnis washingtonensis*: this fungal disease is found in several countries which export Christmas trees to the UK, including Denmark and Norway. It also has a range of other hosts including crab apple trees.

Christmas trees under 3m are a young and vigorous crop and therefore not prone to problems from bark and wood boring pests, which tend to prefer mature or diseased trees. However, because Christmas trees are often grown adjacent to more mature stands of trees, they still present an opportunity for pests in their mobile adult stage (such as beetles, sawflies and moths) to enter the UK as hitchhikers on cut trees. Unusually mild autumns and winters add unpredictability to pest lifecycles and could increase the chances of unexpected hitchhikers.

Due to their seasonal nature, cut Christmas trees will not usually offer a pathway for pests that overwinter in the soil or spend winter on a secondary (non-coniferous) host. The biggest risks are from pests that overwinter in foliage or live under the bark.

### **RISKS SPECIFIC TO LARGER DISPLAY CHRISTMAS TREES**

Larger imported Christmas trees (over 3m), which are usually used as display trees, are considered an even higher risk. A further twelve pests have been identified in the Defra data as having the potential to enter the UK on large cut Christmas trees, taking the total to 27.

There are a number of reasons why the larger trees are more likely to harbour pests and diseases:

- Larger trees are generally older and so there have been more growing seasons, and therefore more opportunities, for pests to attack the tree.
- Standard sized Christmas trees are more likely to have been grown as a monoculture crop, whereas the larger trees might have been harvested individually from within a forest.
- Trees that have grown within a forest rather than as a highly managed crop are more likely to be suffering from stressors which can weaken the tree, making it more attractive to pests. In contrast, a managed Christmas tree crop will have had trees spaced appropriately and is unlikely to suffer from under or over watering and pesticides may have been applied.
- Larger trees provide more substrate for borers and bark beetles to feed on and so adult insects are more likely to attack large trees, so that their offspring have plenty of food source to feed on.



Pests which could be harboured in larger imported Christmas trees, but are unlikely to be found in those under 3m, include a range of bark and wood boring beetles and the spruce longhorn beetle.

While the beetles will not cause devastating damage to affected trees, it is important to control their spread, particularly to species like spruce, which are of fundamental importance to the UK timber construction market.

The following pests are considered absent from the UK, but found in parts of mainland Europe. It is possible that they could be brought in on larger mature Christmas trees harvested from forests which have not been intensively managed or where the trees have come under stress.

- Spruce bark beetle (considered absent from UK although there has been a recent outbreak in Kent)
- Double spined bark beetle or northern bark beetle
- Eight toothed spruce bark beetle
- Black pine sawyer beetle
- *Monochamus sartor*
- Black fir sawyer

Other pests which are present in the UK, although limited in their distribution are the European spruce beetle, *Ips sexdentatus*, the brown spruce longhorn beetle and the black timber bark beetle. The black timber bark beetle also has a range of other hosts including beech, birch, ash and willow trees.

## **POTTED CHRISTMAS TREES AND SOIL PEST THREATS**

A number of soil or root dwelling pests, including nematode pests, have been identified as at risk of spreading to the UK from imported potted Christmas trees.

Three of the nematode pests which affect Christmas tree species are not currently found in the UK. These include the stubby-root nematode, *Scutellonema brachyurus* and the common spiral nematode. The stunt or tobacco nematode is already in the UK but only has limited presence.

All of the nematode pests listed have a wide range of other major hosts, including fruit trees, garden plants, vegetables, fruits and cereal crops. As a result, the impact of their spread into the UK could potentially reach further than potted Christmas trees.

## **RISKS OF SPREAD POST PURCHASE**

Transfer of pests from a cut or potted Christmas tree to another live host is most likely to occur shortly after entry to the UK. If the trees are taken to a farm, nursery premises or



garden centre and kept outdoors, there is a risk that if they are placed close to another host species, transfer may occur.

Once trees have been purchased, pests which are present on the tree would need to be able to survive the Christmas period in a relatively warm and dry environment, and then the movement to a cold outdoor environment.

Once the trees are moved outside after Christmas, if left for a period before chipping or compost, there is a risk that pests could transfer to live host trees. Replanted trees or those not disposed of correctly pose a greater risk.

## **CHANGES TO PLANT HEALTH REGULATIONS**

In December 2019, new Plant Health Regulations are due to be introduced, which will change the way that plant passporting is implemented in this country.

It is possible that the passporting of trees over 3m in height and cut tops or foliage from these trees imported into the UK from Europe will be extended to confirm that the place of production is free from specific bark beetle pests. At present only those imported from affected areas or imported into protected zones need passports.

Plant passports are already required when trees over 3 metres are moved between Great Britain and Northern Ireland or Ireland

It is likely that in the future, all internal movements of trees above 3m will need to be passported.

A significant implication of the new plant health legislation will be the requirement to plant passport all planting stock, including species of Christmas trees.

Cut Christmas trees under 3m in height are not currently controlled and do not require passports. The only exception to this are trees which originate in Portugal or other areas where the pine wood nematode is known to be present.

## **WHY GROWN IN BRITAIN?**

Grown in Britain is an independent not for profit organisation which is committed to encouraging more active management of the UK's forests and woods and increasing use of British grown forest products.

Use of the British flag on products can be deceptive, but the Grown in Britain logo provides an independent assurance that Christmas trees are grown in the UK and subject to robust standards.

Grown in Britain's Christmas tree certification scheme operates throughout the supply chain from growers to retailers and provides an assurance that trees are fresh and grown in the



UK in a responsible way with due regard to the environment. The certification process also includes specific biosecurity checks.

The UK has a flourishing Christmas tree growing sector and the auditing process checks that trees are definitely from the UK, grown responsibly and meet a strict forest floor to shop floor freshness test.

The Grown in Britain freshness test confirms that the Christmas trees are freshly cut prior to first arrival at the sales site. This is a maximum of 15 days for Norway Spruce and for all other species a maximum of 28 days prior to collection.

Buying a certified British grown tree reduces the miles the tree will have travelled and gives an assurance that the tree is freshly cut, which will help ensure it lasts longer.

Around 100,000 Christmas trees are currently certified by Grown in Britain and the number is rising all the time.

Grown in Britain believes the improvement of biosecurity measures across the forestry and ornamental horticulture sectors is critical to protecting the UK's forest industries and natural environment. In early 2019, the HTA (Horticultural Trades Association) and Grown in Britain launched a plant health management standard, providing a set of requirements for businesses to meet, with a view to protecting the horticultural supply chain and the wider countryside from damaging pests and diseases.

To find out your nearest supplier of Grown in Britain licensed Christmas trees, look at the licence holder map on the Grown in Britain website [www.growninbritain.org](http://www.growninbritain.org).

## **RESEARCH METHODOLOGY**

In compiling the data and analysis of Christmas tree pests, the Defra Plant Health Risk and Horizon Scanning team used the following methodology.

Pests on the Risk Register were first filtered by those whose major hosts include *Abies*, *Picea* and *Pinus*. These were then filtered to pests which exist in northern Europe, plus countries known to have exported Christmas trees to the UK in the last five years (EUROSTAT, 2019) and country members of the CTGCE (Christmas Tree Grower Council Europe).

This list of countries includes the UK, Austria, Belarus, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Spain, Sweden and Switzerland.

The filtered records resulted in a list of 36 pests. Consideration was then given to whether Christmas trees (below and above 3 m in height) are a likely pathway for entry.

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