Title: Improving protection for plane trees: Validation IA **IA No:** Defra1513 **Lead department or agency:** Defra **Other departments or agencies:**	**Impact Assessment (IA)** **Date:** 17/09/2013 **Stage:** Final **Source of intervention:** Domestic **Type of measure:** Secondary legislation **Contact for enquiries:** Richard McIntosh 01904 465632 richard.mcintosh@defra.gsi.giov.uk

Summary: Intervention and Options

RPC Opinion: GREEN

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, Two-Out?**	**Measure qualifies as**
-£453,000	-£453,000	£43,400	Yes	IN

What is the problem under consideration? Why is government intervention necessary?

Plane trees are at risk from Ceratocystis platani (Plane wilt), a serious disease of plane trees which has killed tens of thousands of plantation trees and street trees in the eastern United States, California, and southern Europe. The intervention is intended to protect the nation's plane trees, through minimising the risk of introducing an organism which would be potentially very damaging to such trees. The action is supported by stakeholders and will have little direct impact on growers and traders, as the main impact will be on suppliers in other countries. The rationale for tightening existing measures is to address 'negative externalities' - i.e. where importers, who increase the risk of disease spread, don't pay the full damage cost.

What are the policy objectives and the intended effects?

The discovery of Chalara fraxinea has highlighted the increasing threat to the health of our trees from pests and pathogens which are already present in continental Europe. Following the publication of the control plan for Chalara, and the report of the Task Force on Tree Health and Plant Biosecurity on 20 May 2013, we are continuing to review the top risks to tree health and are proposing action to prevent incursion of organisms which would be damaging to tree health. Plane trees have been identified as being at risk from harmful organisms not present in GB. The new measures will strengthen existing measures aimed at protecting plane trees by requiring that material comes from areas free from Ceratocystis platani.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

No non-regulatory options exist which would provide adequate protection.

Option 0 - Maintain the status quo. Continue to rely on the existing EU measures, while seeking EU protected zone status for the UK (which would require additional measures to be met when moving specified material into designated areas), carry out surveillance, and keep the situation under review in light of the results. Protected zone status could not be achieved before next spring at the earliest, due to the processes to be followed to introduce new EU legislation. This option is not favoured, as it means waiting for the problem to arrive before doing anything about it. It may then be too late and expensive to carry out eradication.

Option 1 - Regulation to strengthen existing measures in the Plant Health (England) Order 2005 and the Plant Health (Forestry) Order 2005, in advance of EU measures, The aim is to protect plane trees by requiring that material entering England comes from areas free from Ceratocystis platani. This is the preferred option.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 03/2014

Does implementation go beyond minimum EU requirements?			N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** Yes	**< 20** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible SELECT SIGNATORY: de Mauley Date: 21/10/2013

Summary: Analysis & Evidence

Policy Option 1

Description: Strengthening existing measures aimed at protecting plane trees

FULL ECONOMIC ASSESSMENT

Price Base Year 2013	PV Base Year 2013	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	**High:** Optional	**Best Estimate:** -£453k

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	£0		£51,000	**£453,000**

Description and scale of key monetised costs by 'main affected groups'

Administration (time) costs to nurseries: £25,800
Potential increased price of imports to nurseries from more restricted supply base: £427,000

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	£0		N/A	**N/A**

Description and scale of key monetised benefits by 'main affected groups'

Other key non-monetised benefits by 'main affected groups'

The overall 'value at risk' for plane trees in Victoria, London alone could be around £22m per year (covering environmental, social and economic value). This policy contributes towards safeguarding that value along with the value more widely in the country although the precise contrbution of this policy cannot be quantified. Tighter measures may provide an opportunity for UK nurseries to increase their business (as a result of the tightening of measures leading to import restrictions).

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5%

The cost estimates above are based on a series of assumptions and expert judgement:
- the time cost for companies to raise their awareness is based on a high-end wage assumption, and 1 hour's time per nursery for reading a short letter and informing employees
- the price increases from restricted suply base assume price increases of 20%, declining 10% each year to reflect the market adjusting and increasing supply once its had a chance to grow new supplies

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: £43,400	**Benefits:** N/A	**Net:** -£43,400	Yes	IN

Evidence Base (for summary sheets)

Summary

Improved protection is required for plane trees to combat the threat posed by *Ceratocystis platani* (Plane wilt), a serious disease of plane trees. Urgent action is needed to minimise the risk of introduction, as winter is the main import and planting season for trees, while they are dormant.

We are proposing to lay in Parliament orders under the Plant Health Act which will introduce, inter alia, new national measures to protect plane trees. The orders, due to come into force on 31 October 2013, will amend the Plant Health (England) Order 2005, which covers plants (including small trees) and plant produce, and the Plant Health (Forestry) Order 2005, which covers forestry material (i.e. large trees and wood). Similar measures are being planned by the Devolved Administrations. The new measures will mean that movements of plane trees into and within England will need to be accompanied by official documentation confirming that they are free of the disease concerned. The trees themselves must originate from areas designated by plant health authorities as pest free areas.

Policy Background and Rationale for Intervention

The Report of the Tree Health and Plant Biosecurity Expert Taskforce published on 20 May 2013 recommended that biosecurity should be strengthened to reduce risks at the border and within the UK. Recommended measures include timely consideration of EU Protected Zone status to protect against new threats before they arrive, notification of the import of high-risk plants and monitoring of threats including pathways into the UK to take rapid action where necessary. A range of actions to address these recommendations is currently being considered.

In the meantime, the UK Plant Health Risk Group (which co-ordinates UK assessment and management of tree and plant health threats, involving representatives from Fera, Forestry Commission and Devolved Administrations), is continuing its monthly review of new and revised threats, including production of risk assessments and consultations on such assessments. Around 10-15 risk assessments are published for consultation each year, with the outcome helping to identify priorities for new or revised measures.

Many harmful organisms affecting tree health are already regulated through the EU Plant Health Regime and the UK makes good use of the EU Protected Zone system, which requires additional measures to be met when moving specified material into designated areas. The UK already has 11 Zones in place for forestry affecting organisms, the most of any Member State. The Plant Health Risk Group has reviewed the UK's Protected Zones, to consider whether additional measures are needed in relation to other organisms which are present elsewhere but not in the UK. This work is contributing to the response to Taskforce recommendations referred to above.

As a result of the ongoing work referred to above, taking account of the recommendations emerging from the Task Force, the Plant Health Risk Group has recommended strengthening existing measures aimed at protecting plane trees by requiring that material entering Great Britain comes from areas free from a specific high risk disease. This issue has also been identified as a priority during development of a UK plant health risk register, which was one of the recommendations arising from the Task Force.

Stakeholders have supported the need for stronger measures, through a consultation on the initial risk assessment which ended on 1 July, at the stakeholder workshops which were arranged to help develop the risk register and at a Tree Health Summit held by the Secretary of State on 11 July.

Ceratocystis platani (Plane wilt) is a serious disease of plane trees, both in the USA and Europe, and has killed tens of thousands of plantation trees and street trees in the eastern United States, California, and southern Europe. Infected trees typically die within 3-6 years. The pathogen is already present in Europe and, despite current EU wide legislation designed to limit its further spread, the pathogen is still spreading in France and other southern member states. Although there has been no spread to the GB to date, a risk analysis has shown that introductions of the organism into GB through infected plants and wood is moderately likely, even with the EU measures in place. Climate does not appear to be an impediment to survival of the pathogen here. In view of this threat, coupled with the high value of plane trees in GB, strengthened requirements are needed.

Overall, all types of woodland in GB cover approximately 3 million hectares in total. *Ceratocystis platani* affects only plane species which are commonly planted as amenity trees within urban areas in the south of Britain. London plane (*Platanus x acerifolia*) is the most commonly planted variety and was chosen for its resilience to air pollution and compacted soil and grows strongly for up to 200 years and can live to 300 years. Plane isn't grown for forestry purposes in Britain but it is a very important component of our urban tree population. Surveys have recorded plane as the 11th most numerous tree in London representing 5.1% of a total population, estimated at 7 million trees

including woodland. The prominent position of these trees means that they have a very high amenity value and are culturally important to the heritage of our parks and open spaces in many of our major cities.

If *Ceratocystis platani* were to spread then it would be likely to do so at rate of around 10 miles per year – so for plane to be exposed in York would take 25 years, or 8 years for London. Trees are killed, so a total loss of to the value is possible but expected to take a long time, say another 10 years or 35 years in total including disease spread.

The Secretary of State proposes to take urgent action to minimise the risk to plane trees. The rationale for acting now is that winter is the main import and planting season for trees, while they are dormant. The main interception of ash trees infected with *Chalara fraxinea* and the outbreaks of sweet chestnuts infected with sweet chestnut blight involved trees imported over the winter period. A delay in introduction would mean that we would miss some of this crucial period. The action is based on the best technical evidence available, has been supported by stakeholders through three different processes (consultation on the risk assessment, development of the risk register and at the Secretary of State's Tree Health Summit). There will be little direct impact on nurseries growing and trading plane trees, as they are already authorised to issue plant passports, but there will be some indirect impacts through having a reduced supply base for imported stocks. The potential benefits are substantial, given the value of plane trees, particular in urban environments. The national measures will be kept under review in light of developments at the EU level, particularly in relation to designating the UK as a protected zone.

A statutory notification scheme is in place for imports of plane and other tree species to help make the best use of surveillance resources, to focus on the highest risk plants (in terms of their source, intended destination and use etc). Also, to help target follow up inspections and/or submission of samples for laboratory analysis. This is providing useful intelligence and facilitating targeted checks on plane planting material. However, it does not address the fundamental issue that the existing EU requirements, which rely on the observation of visual symptoms which may not always be associated with infected material, have proven to be deficient. We therefore intend to press the Commission to designate the UK as a protected zone for *Ceratocystis platani.* Our aim would be that plane material for planting, other than seeds, originates from places of production in countries where *Ceratocystis platani* is known not to occur or from an area free from the disease. Most compliance costs would therefore fall on exporters/suppliers in other member states, with some additional time/admin enforcement/monitoring costs.

The improved protection for plane trees is part of a wider package of tree health measures being introduced through single amendments to the Plant Health (England) Order 2005 and the Plant Health (Forestry) Order 2005.

The intervention is intended to protect the nation's plane trees, through minimising the risk of introducing an organism which would be potentially very damaging to such trees. The action is supported by stakeholders and will have little direct impact on growers and traders, as the main impact will be on suppliers in other countries. The rationale for tightening the existing measures is therefore to address negative externalities (i.e. where importers who increases the risk of disease spread, do not pay the full cost of that damage).

Options

No non-regulatory options exist which would provide adequate protection. The European Commission recognise that EU measures are required to protect plane trees, as requirements are included in the EU Plant Health Directive. However, these have proven to be deficient as harmful diseases of plane have continued to spread in some EU member states. There are existing EU legal provisions which provide for member states to take action in such situations, but as these are set out in the EU Plant Health Directive rather than in a directly-applicable regulation, a domestic statutory instrument is needed to make use of them.

The following options have been considered:

Option 1: Regulation to strengthen existing measures aimed at protecting plane trees by requiring that material entering England comes from areas free from *Ceratocystis platani*. The intention is to press for strengthening of the EU requirements, through seeking Protected Zone status for the UK. However, EU measures will not be agreed and in place before the forthcoming season. We therefore intend to introduce national measures in advance of action by the EU, to ensure that requirements are in place by the autumn, which is the main period for importing and moving trees. This is the preferred option.

Option 2: Maintain the status quo. Continue to rely on the existing EU measures, while seeking EU protected zone status for the UK (which would require additional measures to be met when moving specified material into designated areas), carry out surveillance, and keep the situation under review in light of the results. Protected zone status could not be achieved before next spring at the earliest, due to the processes to be followed to introduce new EU legislation. This option is not favoured, as it means waiting for the problem to arrive before doing anything about it. It may then be too late and expensive to carry out eradication.

Proportionate Assessment of Direct Costs to Business (OITO Method)

Costs

The new requirements will mean that movements of plane trees into and within England will need to be accompanied by official documentation confirming that they are free of the disease concerned. The trees themselves must originate from areas designated by plant health authorities as Pest Free Areas (an internationally recognised term to confirm freedom from specified pests and pathogens through official surveys). Therefore, the impact will mainly be felt in countries where disease is present, where plane trees will no longer be allowed to be exported to the UK.

In England there are 77 nurseries authorised to issue plant passports for plane trees. Plant passports are officially approved EU documents confirming that relevant EU requirements have been met. To minimise the impact on industry, the aim is to accept plant passports as the official documentation needed to confirm compliance with the new requirements. Existing authorisations will be extended to cover the new requirements.

The new requirements extend the need for official documentation to a different stage than that covered by the plant passporting requirements (from nursery to retailer, rather than just nursery to nursery) so in theory this could bring more nurseries into scope. In practice however the vast majority, if not all, nurseries trading in plane trees are already authorised to issue plant passports because they want to trade with a range of customers, including those for which a passport is needed. As a result, the requirements would simply involve awareness raising rather than additional checks and visits (whereby a short letter is sent to the 77 nurseries to inform them of the new requirements for plane trees).

At a time cost of up to 1 hour per nursery to read the letter and inform the team, the total time required could be up to around 77 hours. Multiplied by an upper-bound wage rate of £30 per hour (taken from the top decile of earnings for full time workers in ONS ASHE 2012) and then applying an uplift of 30% to reflect non-labour costs, this results in an hourly cost of around £40. Multiplying this hourly rate by the total estimated hours of additional burden results in an overall cost estimate of around £3,000 per year for the inclusion of pine within the list. If projected forwards over ten years, and expressed as the 'Equivalent Annual Net Cost to Business' (EANCB), as defined in the latest BIS Impact Assessment calculator, the **EANCB is around £2,500**.

Any additional administrative impact will be negligible, given that we will permit the plant passport to constitute the new official documentation and that existing authorisations will be extended.

The main impact on English businesses is likely to be a reduced supply base for imported plants which could lead to increased prices. Indirectly, however, there will be the potential opportunity for UK nurseries to increase their business (as a result of the tightening of measures leading to import restrictions), by increasing their supply of plane trees.

The RPC commented, in their sign-off of the Regulatory Triage Assessment, that further consideration should be given to the impact of such increasing prices, to increase the robustness and completeness of the EANCB. An additional analysis is therefore provided. If the prices importers face increase as a result of being able to buy from more limited sources in future, then this would result in increased costs to UK businesses. However, the level of trade is low relative to other forestry species and commodities. Based on notifications of around 2,300 imports during the first half of 2013, we can estimate that around 4,600 plants are imported per year. With a tree costing in the region of £80, it is estimated that around £368,000 worth of plane trees are imported each year. If a restricted import base leads to price increases in the order of 20% based on expert judgement from the Forestry Commission, using similar previous examples of price increases resulting from restrictions in supply of trees), then this would lead to additional costs of £74,000 per year in total. If projected forwards over ten years, but at a declining rate each year of 10% (to reflect that suppliers will respond and increase supplies once they've had a chance to grow new supplies), and expressed as the 'Equivalent Annual Net Cost to Business' (EANCB), as defined in the latest BIS Impact Assessment calculator, the EANCB is around £41,000.

Note that there may be an element of overestimate from multiplying January-June imports by 2 as imports are more likely to take place in the first half of the year, but this will also be offset by the fact that as companies are still getting used to the new notification scheme there may be some under-reporting. In addition, rising prices may lead to a reduction in demand or substitution for cheaper alternatives. Therefore the additional element of EANCB estimated above is likely to be on the cautious side. Note that any changes in prices as a result of exchange rate fluctuations, or general changes in demand, are not included here as they will occur independent of this policy amendment.

In total, the EANCB is estimated at around £43,500.

Benefits

The total value of plane trees in England is difficult to establish, as the data is not as well established as for trees such as pine and sweet chestnut. However some indicative methods and values do exist. For instance a report published entitled 'Green Benefits in Victoria Business Improvement District' analyses plane trees in part of Victoria in London, and this provides a total 'CAVAT' value for plane of around £22m (a method by which the cost of replacement is multiplied by local population density to include an assessment of amenity value) – although indicative only, this demonstrates that the value of plane trees throughout England could be considerable. The same report estimated benefits of around £85k per year for carbon sequestration, air pollution removal & storm water attenuation by plane in Victoria.

Although we cannot determine precisely the extent to which the tightening of existing measures will safeguard the benefits outlined above, the following information helps to describe the benefits qualitatively. The pathogen has been proven to cause serious disease in Italy and southern France. Should the pathogen establish in the UK, where London plane is relatively widely grown in urban, recreational and woodland areas, it is likely to result in the widespread infection and ultimately death of plane trees. Parts or all of the diseased trees would need to be removed for safety reasons. As a large number of London plane trees in the UK are mature (100-300 years old) (Hull, 2009) the cost of removing these trees and replacing them with resistant alternatives could be considerable (as for France).

London plane trees in urban environments are particularly at risk. This tree is often specified in urban schemes for its aesthetic characteristics (foliage, crown shape, bark colour), longevity, ability to withstand environmental extremes, pollution, drought, pruning and soil compaction (Anselmi *et al*., 1994; Dineva, 2004). The tree is also considered to have a role in mitigating air pollution in highly polluted areas. Whilst London plane is not a native tree and was introduced to the UK over 300 years ago, they now form an integral part of London's landscape, in addition to being common in other UK cities. It has been reported that a tenth of all trees in Greater London are London planes and the tree is such a significant feature of London that it gave the tree its common name.

London plane accounts for some of the tallest and most planted trees in the city and within London is planted in a range of public and communal areas, including a number of parks and squares (such as the Royal Parks in central London) and also as roadside trees. Should these trees have to be removed it will considerably alter the aesthetic character of these urban environments, possibly having an adverse affect on tourism and access to green spaces for the residents.

In 2009, one London Plane tree was valued by the London Tree Officers Association at £750,000, and is therefore considered to be the UK's most valuable tree (Hull, 2009).

In addition to ornamental uses, the tree is used for timber and as fuel wood. Although it is difficult to determine its importance for these uses it is likely to be very little. The Plane tree's wood is moderately strong and is often used to construct outdoor furniture. The timber is also used for veneer. This use is also likely to be affected however little information available on how much wood is sourced from plane trees.

Moratorium on Micro Businesses

The new measures will apply to all businesses, including micro-businesses, importing plane trees. The risk of introducing harmful organisms isn't mitigated by the size of the business importing material.