

1. Content of the 'Topic Description' document

1.1. Topic area

Management of pest/vector.

1.2. Topic title

Chalara – Current situation.

1.3. Description of the problem the research should solve

Dieback of Ash is a disease of Ash trees caused by the fungus *Hymenoscyphus fraxineus*. The disease causes leaf loss and crown dieback in affected trees, and it may lead to tree death. Ash trees suffering with *H. fraxineus* infection have been found widely across Europe since trees now believed to have been infected with this pathogen were reported dying in large numbers in Poland in 1992. Ash dieback has seriously affected a high percentage of Ash trees across Europe. It has infected many species of Ash, but with differing intensities; there is evidence of low susceptibility to disease in some Asian Ash trees and high susceptibility in common Ash (*Fraxinus excelsior*) and narrow-leaved ash (*Fraxinus angustifolia*). Young trees are particularly vulnerable to *H. fraxineus* and they succumb to the disease rapidly.

Resistance / tolerance to this fungus has been shown to be genetically determined, so selection and breeding for tolerance is feasible.

This short project aims to produce a **European review of the lessons that can be learnt** from what has become known as the Ash dieback outbreak. This will include an assessment of the current situation and an assessment of the impacts in urban and rural environments including health & safety and management considerations.

Further, a **review of Ash dieback research** will be done to map current *H. fraxineus* projects to identify knowledge gaps as well as what can be done to increase resilience and mitigate impact, e.g. through the Ash dieback-tolerant or resistant tree breeding programmes. European collaboration could increase the chances of finding further tolerant strains.

A UK research group has found **Ash dieback tolerance markers** and would like to share these with European partners to test them over a wider range of trees and to gain a better understanding of how they work. Two specific questions to answer (1) are they predictive of all tolerance and in all ash tree species? (2) How does the tolerance actually work e.g. early leaf drop?

There are indications that low symptom expression and even lack of symptoms in Ash may also be related to differences in intensity of infection potential influenced by forest structure, site or soil-conditions and microclimate. Monitoring over a long time period, by a research group in Austria showed these relations, thus one question should address the possibilities of **site specific or even regional silvicultural strategies** targeted at keeping infection probability as low as possible.

1.4. Description of the expected results

- A review of lessons learned
- A review of *H. fraxineus* research to map resilient/tolerance work and identify gaps
- A better understanding of tolerance markers
- An increased knowledge on silvicultural or ecological strategies to delimitate disease intensities

1.5. Beneficiaries of this research product

- National and EU policy makers
- National Plant Protection Services, especially inspectorates, risk managers and evidence and analysis specialists, tree surgeons, foresters, forest managers, users of Ash, hedgerow managers, engineers, scientists, hurleymakers, carpenters
- EPPO and its members
- Industry and other stakeholders - NGOs, forest managers, parks and gardens managers, general public, etc.

1.6. Research funders and research contribution/ distribution

Funding organisation	Research activity and researchers involved
1. Department for Environment Food and Rural Affairs, United Kingdom Willem Roelofs Willem.Roelofs@defra.gsi.gov.uk	-Project coordination Contact person: Glyn Jones E.mail: glyn.d.jones@fera.co.uk
2. Eesti Maaülikool, Estonia Rein Drenkhan Rein.Drenkhan@emu.ee	-Contribution to be detailed Contact person: Rein Drenkhan E.mail: Rein.Drenkhan@emu.ee
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10. US Department of Agriculture, Animal and Plant Health Inspection Service, United States of America Laurene Levy laurene.levy@aphis.usda.gov	-Contribute information on ash resistance projects funded at a U.S. university and contribute expert knowledge and information regarding EAB biology, survey, trapping and management in the U.S. Contact person: Scott Pfister E.mail: scott.e.pfister@aphis.usda.gov
11. AlphaTaxa Maria Cullen alphataxa@gmail.com	-Research Contact person: Maria Cullen E.mail: alphataxa@gmail.com
12. Teagasc Agriculture and Food Development Authority Gerry Douglas Gerry.Douglas@teagasc.ie	-Research Contact person: Gerry Douglas E.mail: Gerry.Douglas@teagasc.ie

1.7. Research project partnership outside Euphresco

Euphresco funding ensures a certain level of transnational collaboration among Euphresco member countries. It is possible, if the funding consortium is interested, to contact funding organisations or research groups outside the geographical area covered by Euphresco members. The Euphresco coordinator could advertise the research topic in order to have an enlarged collaboration. If funders are interested in this possibility, please check the case below:

The funding consortium of the topic mentioned in section 1.2 requires to advertise the topic outside the Euphresco network

Information to sharpen the profile of sought partners could be useful (but not mandatory): country/region (if there are preferences), skills/expertise required, etc.

1.8. Any other relevant information on content

It would be beneficial to link with work on Emerald Ash Borer (EAB), especially in the identification of dual tolerance ash trees, development of a breeding strategy and collaboration with researchers and policy people in the USA where EAB is a big problem.

2. Euphresco management aspects of the project

2.1. Indication of the topic budget

Funding organisation ^a	Mechanism ^b	Total Budget ^c
1. Defra (GB)	NC	€ 15 000
2. EMU (EE)	NC	In-kind
3. JKI (DE)	NC	In-kind
4. DAFM (IE)	VP	€ 10 000
5. UNIPD (IT)	NC	In-kind
6. VAAD (LV)	NC	€ 3 000
7. GTC (LT)	NC	In-kind
8. NIBIO (NO)	NC	In-kind
9. SLU (SE)	NC	In-kind
10. APHIS (USA)	NC	€ 6 550
11. AlphaTaxa (IE)	NC	€
12. Teagasc (IE)	RP	€ 7 000
total		€

2.2. Expected duration of the project (only for non-competitive topics)

12-18 months.

2.3. Any other relevant information on topic organisation and management

Actual name is currently *Hymenoscyphus fraxineus* (T. Kowalski) Baral, Queloz, Hosoya, whereas *Chalara fraxinea* is merely the anamorph.

^a First member is project coordinator. A minimum of two partners are necessary for each proposal. Add lines as needed.

^b Please indicate the preferred mechanism (e.g. real pot RP; virtual pot VP; non-competitive NC), or several mechanisms if there is flexibility.

^c Optional, as this amount can still change in the next phase. In-kind contribution should also be indicated in this column.