

Mini data sheet on *Chalara fraxinea*

Added in 2007 - Deleted in 2014

Reasons for deletion:

Chalara fraxinea has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2014, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List.

Chalara fraxinea (Ash dieback)

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| Why | A new disease causing tree mortality has increasingly been observed in European countries on ash trees (<i>Fraxinus excelsior</i>) during the last ten years. The first studies revealed the presence of a pathogenic fungus which was described as a new species, <i>Chalara fraxinea</i> . Because ash dieback could represent a serious threat to forest, amenity and nursery ash trees, the EPPO Secretariat decided to add <i>C. fraxinea</i> to the EPPO Alert List in 2007. In 2008, studies first concluded that <i>C. fraxinea</i> was the anamorph of an already described species, <i>Hymenoscyphus albidus</i> , which is considered as non-pathogenic, native, and widespread in Europe. The emergence of a new disease was thus difficult to explain. However, in 2011 molecular studies concluded that <i>C. fraxinea</i> was in fact the anamorph of a new species called <i>Hymenoscyphus pseudoalbidus</i> (closely related to <i>H. albidus</i> but distinct). In 2012, Zhao <i>et al.</i> considered that a fungus isolated in 1993 from petioles of <i>Fraxinus mandshurica</i> and initially assigned to <i>Lambertella albida</i> (a synonym of <i>H. albidus</i>) was in fact <i>H. pseudoalbidus</i> . Although further studies are needed, this may indicate that Asia (and possibly Japan) is the area of origin of <i>H. pseudoalbidus</i> . |
| Where | EPPO region: Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Guernsey (under eradication), Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Russia (Kaliningrad), Slovakia, Slovenia, Sweden, Switzerland, Ukraine, United Kingdom (under eradication). Asia: Japan. |
| On which plants | <i>Fraxinus excelsior</i> (European ash) and <i>F. angustifolia</i> (narrow-leafed ash). No data is available on the susceptibility of other <i>Fraxinus</i> species. |
| Damage | Initially, small necrotic spots (without exudate) appear on stems and branches. These necrotic lesions then enlarge resulting in wilting, dieback of branches and particularly in the death of the top of the crown. The disease is often chronic but can be lethal. Ash dieback has been observed not only on forest trees but also in urban areas (parks and gardens) and in nurseries. Pictures of the disease can be viewed on the Internet: http://www.plantesygdomme.dk/Asketoptoerre/thumbnails.html |
| Dissemination | Data is lacking on the biology of <i>C. fraxinea</i> . It was isolated from diseased twigs and branches, as well as in dead roots of living ash trees. |
| Pathway | Although data is lacking on the biology of the fungus, it seems likely that plants for planting and wood of <i>F. excelsior</i> could be pathways for spreading the disease over long distances. |
| Possible risks | <i>Fraxinus</i> are widely grown across the EPPO region both for forestry and amenity purposes. Although data is still lacking on the exact role of <i>C. fraxinea</i> in ash dieback, EPPO member countries should be warned that ash dieback is emerging in Europe and that there may be a risk in moving diseased <i>F. excelsior</i> plants across the region without any precaution. Further studies are obviously needed on the etiology of ash dieback, its geographical distribution and economic impact. |
| Source(s) | Anonymous (2008) La lettre du DSF no. 37 - Décembre 2008. Département de la Santé des Forêts (FR), 12 pp. Anonymous (2009) La lettre du DSF no. 38 - Juin 2009. Département de la Santé des Forêts (FR), 9 pp. Anonymous (2009) La lettre du DSF no. 39 - Décembre 2009. Département de la Santé des Forêts (FR), 9 pp. |

- Barić L, Zupanić M, Pernek M, Diminić D (2012) [First records of *Chalara fraxinea* in Croatia - a new agent of ash dieback (*Fraxinus* spp.)]. *Šumarski list* 9-10, 461-469 (in Croatian).
- Chandelier A, Delhaye N, Helson M (2011) First report of the ash dieback pathogen (anamorph *Chalara fraxinea*) on *Fraxinus excelsior* in Belgium. *Plant Disease* 95(2), p 220.
- Davydenko K, Vasaitis R, Stenlid J, Menkis A (2013) Fungi in foliage and shoots of *Fraxinus excelsior* in eastern Ukraine: a first report on *Hymenoscyphus pseudoalbidus*. *Forest Pathology*. doi:10.1111/efp.12055.
- Halmschlager E, Kirisits T (2008) First report of the ash dieback pathogen *Chalara fraxinea* on *Fraxinus excelsior* in Austria. *New Disease Reports*, Volume 17, February 2008 - July 2008. <http://www.bspp.org.uk/ndr/july2008/2008-25.asp>
- Ioos R, Kowalski T, Husson C, Holdenrieder O (2009) Rapid *in planta* detection of *Chalara fraxinea* by a real-time PCR assay using a dual-labelled probe. *European Journal of Plant Pathology* (in press).
- Jankovský L, Holdenrieder O (2009) *Chalara fraxinea* ash dieback in the Czech Republic. *Plant Protection Science* 45(2), 74-78 (abst.).
- Kirisits T, Matlakova M, Mottinger-Kroupa S, Halmschlager E, Lakatos F (2010) *Chalara fraxinea* associated with dieback of narrow-leaved ash (*Fraxinus angustifolia*). *Plant Pathology* 59(2), p 411.
- Kirisits T, Matlakova M, Mottinger-Kroupa S, Cech TL, Halmschlager E (2009) The current situation of ash dieback caused by *Chalara fraxinea* in Austria. *SDÜ Faculty Forestry Journal*, Serial A special issue, 97-119.
- Kowalski T (2006) *Chalara fraxinea* sp. nov. associated with dieback of ash (*Fraxinus excelsior*) in Poland. *Forest Pathology* 36(4), 264-270.
- Kowalski T, Holdenrieder O (2009) The teleomorph of *Chalara fraxinea*, the causal agent of ash dieback. *Forest Pathology* (in press).
- Kowalski T, Holdenrieder O (2008) Pathogenicity of *Chalara fraxinea*. *Forest Pathology* 38(6), 1-7.
- Kunca A, Leontovyc R, Zubrik M, Gubka A (2011) Bark beetle outbreak on weakened ash trees and applied control measures. *Bulletin OEPP/EPPO Bulletin* 41(1), 11-13.
- NPPO of Finland (2008-10).
- NPPO of Guernsey (2012-11).
- NPPO of Italy (2009-11).
- NPPO of Lithuania (2010-05).
- NPPO of Luxembourg (2014-04).
- NPPO of the Netherlands (2010-08).
- NPPO of Slovenia (2009-01).
- NPPO of the United Kingdom (2012-03).
- Ogris N, Hauptman T, Jurc D, Floreancig V, Marsich F, Montecchio L (2010) First report of *Chalara fraxinea* on common ash in Italy. *Plant Disease* 94(1), p 133.
- Queloz V, Grünig CR, Berndt R, Kowalski T, Sieber TN, Holdenrieder O (2011) Cryptic speciation in *Hymenoscyphus albidus*. *Forest Pathology* 41(2), 85-168.
- Schumacher J, Wulf A, Leonhard S (2007) [First record of *Chalara fraxinea* T. Kowalski sp. nov. in Germany - a new agent of ash decline.] *Nachrichtenblatt des Deutschen Pflanzenschutzdienstes* 59(6), 121-123 (in German).
- Szabó I (2008) [Dieback of common ash (*Fraxinus excelsior*) caused by *Chalara fraxinea*.] *Növényvédelem* 44(9), 444-446 (in Hungarian).
- Personal communication with Dr Bjørn Økland, Norwegian Forest and Landscape Institute, Ås, Norway (2008-08).
- Personal communication with Prof. Halvor Solheim, Norwegian Forest and Landscape Institute, Ås, Norway (2008-09).
- Timmermann V, Borja I, Hietala AM, Kirisits T, Soldheim S (2011) Ash dieback: pathogen spread and diurnal patterns of ascospore dispersal, with special emphasis on Norway. *Bulletin OEPP/EPPO Bulletin* 41(1), 14-20.
- Zhao YJ, Hosoya T, Baral HO, Hosaka K, Kakishima (2012) *Hymenoscyphus pseudoalbidus*, the correct name for *Lambertella albida* reported from Japan. *Mycotaxon* 122, 25-41.
- INTERNET
- Department of Agriculture, Food and the Marine of Ireland.
- Chalara disease found in young ash trees. Press release of 2012-10-12. <http://www.agriculture.gov.ie/media/migration/forestry/ashdiebackchalara/PR12Oct12.pdf>
- Government steps up ash dieback (Chalara) eradication measures. Press release of 2012-12-13. <http://www.agriculture.gov.ie/media/migration/forestry/ashdiebackchalara/PR13Dec12.pdf>
- ETH (Swiss Federal Institute of Technology Zürich). New fungus strikes the ash at its core by Peter Rüeegg (2010-04-08). http://www.ethlife.ethz.ch/archive_articles/100408_eschenpilz_per/index_EN
- Forest & Landscape Denmark. Ash dieback in Denmark. <http://en.sl.life.ku.dk/forskning/fagdatacenterskov/skovsundhed/skader/asketoptoerre.aspx>
- Institut fédéral de recherches sur la forêt, la neige et le paysage WSL, Birmensdorf (CH). Meier F, Engesser R, Forster B, Odermatt O, Angst A (2008) Protection des forêts - Vue d'ensemble 2007. <http://www.wsl.ch/forschung/forschungunits/walddynamik/waldschutz/wsinfo/fsueb/fsub07f.pdf>
- Mattilsynet. Regulations of 8 September 2008 concerning measures against *Chalara fraxinea*. http://www.mattilsynet.no/english/plant_health/regulations_of_8_september_2008_concerning_measures_against_chalara_fraxinea_63077
- NAPPO - Pest Alert System. *Chalara fraxinea* Kowalski - Intensive dieback of European ash in Poland associated with a newly described fungal species, *Chalara fraxinea*. <http://www.pestalert.org/viewNewsAlert.cfm?naid=26>
- Nordic Forest Research Cooperation Committee. Ash decline in Nordic and Baltic countries. <http://www.metla.fi/org/pathcar/ash-decline.htm>
- Norwegian Institute of Forestry and landscape. Ash dieback. http://www.skogoglandskap.no/nyheter/2008/askens_endelikt (in Norwegian).

Research and Training Centre for Forests, Natural Hazards and Landscape (BFW)
Actual situation of dieback of ash in Austria by TL Cech and U Hoyer-Tomiczek.
http://bfw.ac.at/400/pdf/fsaktuell_40_3.pdf
Ash dieback and premature leaf shedding in Austria by TL Cech.
http://bfw.ac.at/400/pdf/fsaktuell_37_8.pdf

EPPO RS 2007/179, 2008/128, 2008/180, 2008/181, 2008/182, 2008/183, 2008/199, 2009/066, 2009/131, 2009/132,
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