

Key EU-regulated forest pests



Target species of the FORSAID project

Biotic disturbances in forests are characterised by the proliferation of pest species threatening plant health in such ecosystems. With climate change and globalisation intensifying this issue, the European Union has undertaken steps to regulate native and non-native organisms of this kind in a bid to strengthen monitoring, detection and containment.

Aiming to support this process via technological innovation, citizen science and stakeholder engagement, **the FORSAID project** tailors its efforts to six insect, three fungi and one nematode species. Their selection is a reflection of current legislation, research needs and geographical distribution across Europe. In that sense, both broadleaved and conifer tree species in different ecological and production settings (nurseries, urban trees and forest stands alike) are accounted for.

Insects



Place of origin



Threatened tree species



Presence in the EU



Relevant EU legislation

Bronze birch borer

Agrilus anxius


North America


Birch (*Betula*)

Not present
Risk of introduction due to increasing trade of birch wood products


Implementing Regulation 2019/1702 (priority pest); Implementing Regulation 2019/2072 - Annex II/A



Emerald ash borer

Agrilus planipennis


East Asia


Ash (*Fraxinus*)


Not present



Implementing Regulation 2019/1702 (priority pest); Implementing Regulation 2019/2072 - Annex II/A

FORSAID

Early detection of this woodboring beetle is being explored via proximal remote sensing, environmental DNA and automatic identification tools for beetles possibly caught in surveillance programmes.

Oak lace bug

Corythucha arcuata


North America


Oak (*Quercus*)

Present
First detected in Italy (2000), subsequently also in Central Europe and the Balkans


Not regulated



European spruce bark beetle

Ips typographus


Europe


Norway spruce (*Picea abies*)


Present



Implementing Regulation 2019/2072 - Annex III

FORSAID

Tree mortality caused by this noteworthy forest pest in Europe is being assessed through continent-scale remote sensing. In addition, smart traps and automatic identification systems are being deployed to ensure quick and efficient monitoring.

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Insects

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Pine processionary moth

Thaumetopoea pityocampa

Europe
 Pine (*Pinus*)
 Present
 Implementing Regulation 2019/2072 - Annex III



FORSAID

With this insect in mind, defoliation areas are being mapped using remote sensing at the European scale. Smart traps for monitoring are being tested as well.

Oak processionary moth

Thaumetopoea processionea

Europe
 Oak (*Quercus*)
 Present
 Implementing Regulation 2019/2072 - Annex III

FORSAID

The project is testing smart traps for monitoring this species.

Fungi and Nematode

Place of origin
 Threatened tree species
 Presence in the EU
 Relevant EU legislation

Canker stain disease

Ceratocystis platani

North America
 Plane (*Platanus*)
 Present
 Long-established across the continent, incl. in France, Greece and Italy
 Implementing Regulation 2019/2072 - Annex II/B



FORSAID

The focus in relation to the species is on detection at stand-level with remote sensing as well as at proximal-level with seedling spectroscopy and environmental DNA.

Chestnut blight

Cryphonectria parasitica

Asia
 Chestnut (*Castanea*)
 Present
 Implementing Regulation 2019/2072 - Annex III

FORSAID

Project partners are delving into early symptom detection in seedlings and identification of the pathogen using environmental DNA.

Pine pitch canker

Fusarium circinatum

North America
 Several pine species (*Pinus*) and other conifers
 Present
 First detected in the mid-1990s
 Implementing Regulation 2019/2072 - Annex II/B



FORSAID

Fourier Transform Infrared (FT-IR) spectroscopy for stand-level remote sensing is being used to improve detection of this species.

Pine wood nematode

Bursaphelenchus xylophilus

North America
 Pine (*Pinus*)
 Present
 First detected in Portugal (1999), subsequently in Spain (2008) and France (2025)
 Implementing Regulation 2019/1702 (priority pest); Implementing Regulation 2019/2072 - Annex II/B

FORSAID

Detection of the nematode is being undertaken at European and stand scales using remote sensing and environmental DNA.

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