

Acute oak decline

Published: 27.03.2022.

In 2017, the bacterium that causes acute oak decline was first detected in Latvia

The State Plant Protection Service, after receiving information from the State Forest Service about declining oak trees in the territory of Talsu pauguraine Nature Park, took samples, in which a dangerous oak disease, Acute Oak Decline, was detected for the first time in Latvia.

Acute Oak decline is caused by bacteria that have only recently been discovered by scientists: *Gibbsiella quercinecans* and *Brenneria goodwinii*.

The presence of the disease has been confirmed by laboratory analysis in the UK and Switzerland, but symptoms have been observed in several European countries. The disease is [widespread in the UK](#), where extensive research is being carried out.

On 14 December 2018, a multilateral cooperation agreement was signed for further work and scientific research on the disease over a three-year period - the scientific research project "Development of solutions for the control of acute oak decline in the Talsu pauguraine in the territory of the Forest Research Station, which can also be applied in the rest of Latvia, if necessary".

Nature of the project

The State Forest Service, the State Research Forest Management Agency "Forest Research Station" of the Latvian University of Agriculture, the Latvian State Forest Research Institute "Silava", the State Plant Protection Service and SIA "Amber wood" agreed on mutual cooperation within the framework of a scientific project. During a period of three years the project provided for the development of solutions for the control of acute oak decline in the Talsu pauguraine, in the territory of "Forest Research Station", which could be applied to the rest of Latvia, if necessary.

As part of the project, monitoring plots were established in areas where oaks with acute oak decline are present. The progression of the disease symptoms and the distribution of the two-spotted oak buprestid beetle (*Agrilus biguttatus*), considered to be one of the potential vectors of the disease, were being investigated in these sites. As part of the project forest surveys, sampling and testing, and mapping were also carried out.

Symptoms of acute oak decline

The disease mainly affects mature oaks more than 50 years old and more than 30 cm in diameter. The disease threatens oaks not only in forests, but also in parks, farmsteads and green areas. It is not only a threat to the common oak (*Quercus robur*), but also to other oak species found in parks and green areas.

Symptoms:

A dark, sticky liquid (exudate) oozes from the trunk of the infected tree and is released through small, vertical cracks. The cracks are about 20-25 centimeters long. The cracks are typically found about 1-2 meters above the ground, but can be present higher up the trunk. The dark liquid is usually observed in spring (March-June) and autumn (October-November).



When the bark of the tree is removed, dark, wet, irregularly shaped lesions are visible.



Infected trees often show signs of the two-spotted oak buprestid beetle *Agrilus biguttatus* activity with its caterpillars found under the outer bark.



D-shaped beetle exit holes of 3-4 mm may be visible near the bleeds on the trunk.

As the disease progresses, the tree crown thins and branch tip dieback is common.



Causes of disease

According to British scientists, the acute oak decline is a complex disease that develops as a result of a number of different factors (not just bacteria). The health of the tree roots, the presence of various fungi (*Armillaria sp.*), the two-spotted oak buprestid beetle (*A. biguttatus*), unfavorable abiotic factors (e.g. drought), etc. may all play a role in the development of the disease.

Containment

The disease is still too poorly understood to make any specific recommendations for control.

Report signs of acute oak decline to the State Forest Service 



If you notice any signs of acute oak decline, please do not touch the trees and report their location to the State Forest Service forest protection engineers:

Oskars Zalkalns – phone 26188968; e-mail: oskars.zalkalns@dienvidkurzeme.vmd.gov.lv

Vasilijs Kolačs – phone 29441040; e-mail: vasilijs.kolacs@ziemelvidzeme.vmd.gov.lv

<https://www.vaad.gov.lv/en/acute-oak-decline>