

Asian Knotweed

Since January 1st, 2022, the transportation and sale of the viable parts of three species of Asian Knotweed has been banned. To prevent the plants from spreading, it is crucial to determine if any of these plants are present in the soil. Eurofins offers analytic capabilities that can assist in this.

Origin

The species in question are Japanese, Sakhalin, and Bohemian knotweed. These three species are often referred to as Japanese Knotweed and originate from East Asia. In the countries of origin, the plants are part of native nature and do not cause any issues.

In the 19th century, Japanese Knotweed was first introduced to Europe by German scientist Philipp Franz Balthasar Von Siebold. He researched and studied the plant at the Leiden Botanical Gardens.

Since the 1950s, the plant continued to spread at a very rapid rate by the method of reproduction. A small part of a root can quickly grow into a full-grown plant, which easily establishes itself in different types of soil.

Spread

Most of the spread comes from (the transportation of) garden waste, soil, and compost that contain Japanese Knotweed. It has proven to be very difficult to remove

the plant once it has established itself. This is due to its strong and deep growing roots and overgrowing characteristics.

Currently, Japanese Knotweed is not (yet) included in the European list of invasive species. However, there are national regulations in the Netherlands and the United Kingdom to control and limit this plant, amongst other countries.

The trade ban, which took effect on January 1, 2022, in the Netherlands, is part of this.

Identification methods

In many cases, it can already be determined during fieldwork if Japanese Knotweed is present, but this is not always possible.

Eurofins can examine root parts by means of a DNA analysis, which determines if the root parts contain genetic material (DNA) of Japanese Knotweed.

This method can be used throughout the year with reliable result. The method does not distinguish between living or dead plant material.

Since transportation of non-viable knotweed is still permitted, there is also the possibility of using root parts for a germination test.

Eurofins has developed a research protocol for this purpose, in which the root parts are deployed under controlled conditions and promoted plant growth. If parts germinate or grow, it will be determined whether this is Japanese Knotweed.

By combining these two identification methods, it is possible to determine the presence and viability of Japanese Knotweed, and thus, help prevent further spread.

DNA-analysis

From the supplied root material, a portion is used for analysis. DNA is isolated from the sample, which can then be used to determine the presence of Japanese Knotweed. DNA contains the genetic information of a species and unique characteristics that can be recognized during DNA analysis.

For this purpose, the laboratory uses a so-called primer. This primer recognizes pieces in the DNA of the knotweed and binds to them. Subsequently, during the analysis, this piece of DNA is multiplied until enough is present for measurement. This allows the presence or absence of the knotweed to be determined.

Germination test

All supplied root parts can be used for the germination test. According to a research protocol developed by Eurofins, the root parts are incubated.

All conditions are set to promote maximum growth. These include temperature, light, water supply and the composition of the soil in which the root parts are planted. If plants parts germinate, the presence of the (Japanese) Knotweed is assessed. This allows the viability of present knotweed to be determined.

The DNA analysis and germination test both show the presence of Japanese, Sakhalin and Bohemian Knotweed.

Practical information: DNA analysis

Type of material Root parts (in consultation soil samples)¹

Required amount of material A standard glass jar (50-200 grams) of plant material

Turnaround time 6 working days

Practical information: Germination test

Type of material Root parts¹

Required amount of material A standard glass jar (50-100 grams) of plant material

Turnaround time Maximum 6 weeks²

¹⁾ When requesting both the DNA analysis and the germ test, two separate samples must be supplied.

²⁾ It is checked several times a week if any germs emerged. If so, this will be reported immediately.

More information

Samples can be collected at the desired location or at a depot. Eurofins' logistics services can be reached at 0800-0991180 or logistiek@etbnl.eurofins.com.

For additional information regarding analyses, reporting, rates, delivery times, service and more, please contact the designated contact person or the customer service during office hours.