

# National Phytosanitary Laboratory

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The National Phytosanitary Laboratory ( NPL) is a reference laboratory providing laboratory diagnosis of plant quarantine organisms and organisms of major risk to plants.

The tasks of the laboratory are:

- aiding in limiting the spread of quarantine and other organisms harmful to plants,
- participating in the risk analysis of the spread of plant quarantine organisms,
- carrying out laboratory diagnosis, ensuring quality and timely testing of plants, plant products, soil and pests.

The NPL, in collaboration with the Plant Quarantine Department, provides a phytosanitary monitoring system to ensure the early detection of harmful organisms, to establish plant quarantine measures in specific cases and locations, and to facilitate the implementation of measures to the extent necessary to eliminate or limit the spread of harmful organisms and reduce their negative impact.

## What you need to know if you want to submit a sample to the NFL for testing

### Sample types and general sample preparation requirements

Samples may be consist of:

- plant or plant parts: branches, leaves, flowers, fruit, roots (bulbs, tubers), seeds, plant products;
- pest (insect or mite) in different developmental stages (larva, imago);
- nematode cyst;
- the organism to be identified in any form (microscopic specimen on a slide, culture in a Petri dish, test tube, etc.);
- soil, soil substrate, peat;
- different types of pest traps (glue shields, pheromone traps, etc.).

All plants, plant parts or plant products with visible symptoms or signs of damage should be sampled, and a 4-5 cm section of the healthy part of the plant around the damage should also be included in the sample.

Depending on the type and degree of damage, 3-5 plants or plant parts should be sampled.

Avoid sending "minimal" samples, e.g. a few damaged leaves or a 3 cm long twig. A larger sample will better show the nature of the damage and it is more likely that its cause will be identified.

Lesions caused by many different organisms may be similar but require specific methods and reagents to identify them (this applies most to bacteria, phytoplasmas, viruses, viroids).

## How to package and send the sample for testing

Plants or plant parts should be placed in a plastic bag, which should be sealed and secured so that the contents stay contained.

The sample may also be placed in a suitable closed container.

Pests or nematode cysts should be placed in a test tube with a plug.

Soil should be placed in a plastic bag.

Soil samples should be taken as dry as possible, it should not be done during or immediately after rainfall.

If there are multiple samples, they should be numbered or otherwise identified (each sample is labeled in the laboratory).

After sampling and preparation, the sample should be taken immediately to the laboratory.

If a delay in delivering the sample is expected, the sample should be stored in a refrigerator at +5°C temperature. The sample should be sent to the laboratory within 2-3 days at the latest

Samples are accepted by the laboratory:

On working days from 9.00 to 16.00.

On days preceding public holidays from 9.00 to 15.00

Important! On Fridays and before public holidays, the laboratory does not accept samples of local origin consisting of green plants or parts thereof.

Receiving laboratory report

The client can choose to receive laboratory report:

by e-mail;

in person;

in urgent cases, the test results may be reported by telephone.

Staff

The Laboratory is staffed by a team of experts and technicians in:

Virology,

Bacteriology,

mycology,

helminthology,

entomology,

herbology,

molecular biology.

Qualifications of the staff

In order to improve the qualifications of the staff, promote professional development and motivate employees, the State Plant Protection Service supports and provides opportunities for growth for the laboratory staff, regular professional development through participation in interlaboratory comparative testing, conferences, seminars, and task forces.

Staff have been given opportunities to train abroad, e.g. in laboratories of similar specialization in Denmark, France, Finland, Portugal, Italy, the Netherlands

## Contacting the laboratory

If you have any questions related to sample preparation, delivery, and testing, please call [67550950](tel:67550950), [26645561](tel:26645561).

### Laboratory analysis of samples of plants, plant products, soil and plant pests



#### Quality



The NFL has been accredited since 2005.

For more information: [www.latak.gov.lv](http://www.latak.gov.lv) > [Accredited Bodies](#) > T-295

The quality policy of the laboratory means that our timely and high quality testing of samples satisfies the needs of the customer and the society as a whole.

NPL aims to ensure similar capabilities to laboratories in the European Union.

Experts participate in the European and Mediterranean Plant Protection Organisation task forces for diagnostic issues in various fields and for quality assurance.

#### Methods



The NPL tests for major plant pathogens and other harmful organisms in accordance with EU and internationally recognized methods.

The laboratory frequently uses both traditional morphological and modern testing methods, such as immunofluorescence (IF), enzyme-linked immunosorbent assay (ELISA), molecular testing (PCR, real-time PCR, reverse transcription PCR).

Often a combination of different methods is used on a single organism to confirm the result and to accurately identify the species of organism.

Pathogenicity tests using greenhouse-grown indicator plants can be performed in the laboratory.

<https://www.vaad.gov.lv/en/national-phytosanitary-laboratory>