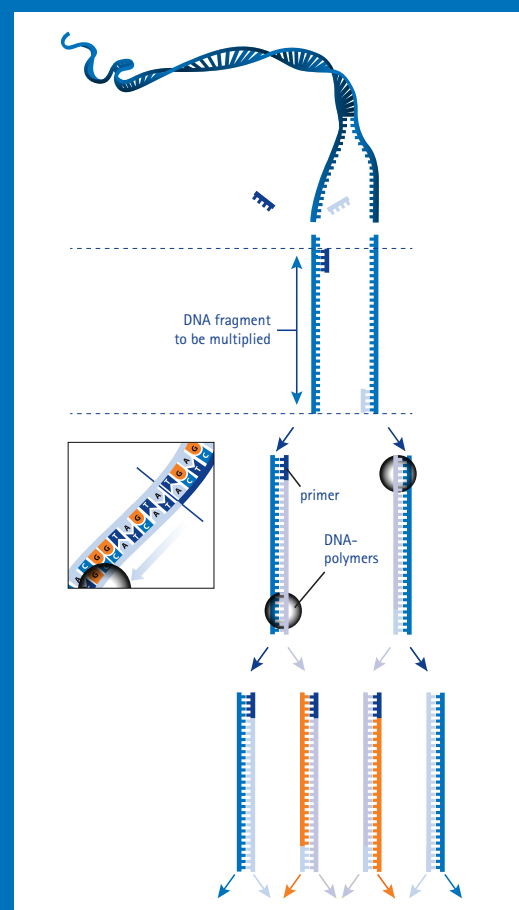


## How to take a sample

- Plant, soil, seed or water samples should be taken from plots or zones where the harmful organisms are still active, therefore during early symptoms. Water samples can be taken from drain water, river water, basins, lakes or spring water. Take a sample of at least 250 ml in a clean bottle.
- Take at least 40 soil samples per hectare. Soil samples can be taken as a preventive check.
- Take a sample prior to carrying out treatment with a pesticide.
- Collect at least 2-5 plants. Always include the roots and the stem base!

## DNA Multiscan explained

The part of the infected plant where the pathogen is expected is isolated and placed in a bag with a sterile liquid medium. The cells of the plant material are destroyed, causing fungi and bacteria to be released into the sterile liquid. Through a specific procedure, all the DNA from a portion of this liquid is isolated and completely purified. Through a PCR (Polymerase Chain Reaction) the DNA present is greatly multiplied. As a result, a very small amount of DNA from fungi or bacteria can already be shown at the early stages of infection. Action can thus be taken before the damage gets out of hand.



When the DNA is multiplied through the PCR it is brought into contact with a membrane containing unique codes that correspond with the DNA of more than 50 fungi or 10 bacteria. When one of these fungi and bacteria is present in the sample, the DNA will adhere itself to the corresponding place on the membrane.

The final step is to make the adhered fungi and bacteria visible. A light reaction shows the places where the membrane adhesion has taken place.



## DNA Multiscan

**Susceptibility to diseases is not restricted to above-ground plant tissue. Pathogens can also hide in the root environment. They are not visible to the naked eye; their presence only becomes apparent when the plant begins to exhibit damage. By then it's too late!**

The Eurofins Agro DNA Multiscan monitors the development of fungi and bacteria. The DNA Multiscan enables you to quickly determine the presence of pathogens in plants. The DNA Multiscan also enables you to determine whether any infection is present in plant reproductive materials, such as cultivation tables, casks and tools. The DNA Multiscan is a unique DNA technique. It shows the presence of fungi in even the smallest concentrations. You are therefore already warned before the symptoms appear in the plant.

### Plant specific packages

Extensive research packages are available for greenhouse vegetables, greenhouse cultivation in general, grasses & lawn, woody plants, ornamental plants and open field agriculture. In addition, there are a number of plant specific packages whereby only the pathogens for strawberries, gerberas, cucumbers, peppers, roses or tomatoes are analysed. Moreover, there is a special Trichoderma package.

In addition to the analyses to trace fungi, Eurofins Agro has a special bacteria package. This is used to search for various types of harmful bacteria.

### Limited package

The DNA Previscan is a quick preventive test to test on a regular basis for the presence of more common 'problem fungi' in substrate cultivation. This analysis will give you clarity about the fungi population within a few days. The price is lower than for the other packages because the number of fungi is limited. If you would like more fungi examined, you should choose DNA Multiscan.

### Other research by Eurofins Agro

With DisinfectorCheck you will get insight into fungi and bacteria before and after the disinfectant. Is your disinfectant working properly? Our PlantDoctors can make a diagnosis in case of damage to the crop. They will provide you advice for follow-up steps.

# Funghi

[illegible]

# Bacteria

[illegible]

# Packages

## DNA Multiscan

January 2019