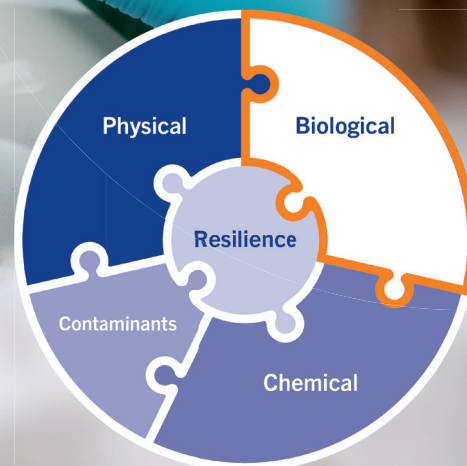




Detection
of active
DNA

DNA Multiscan

Innovative detection of fungi and bacteria

Pathogens are not only found on crops – fungi and bacteria can also be present in water, substrates, or on materials and surfaces within the greenhouse. These microorganisms are invisible to the naked eye – their presence often only becomes apparent once the crop shows symptoms, which is usually too late for effective intervention.

DNA Multiscan is a fast and reliable test for detecting even very low concentrations of fungi and/or bacteria in water, substrate, and plant material. It is also highly suitable for monitoring tables, trays, and tools.

New protocol

Eurofins Agro Testing has recently optimised its DNA Multiscan. Standard DNA analyses generally do not distinguish between DNA from living cells, which is embedded in the cell structure, and free, inactive DNA originating from dead cells. This free DNA can be present in a sample and contribute to a positive test result, without posing any actual threat to the crop. The new protocol removes this free DNA from the sample, eliminating its interference with the test signals. This increases the reliability of the test, particularly in water samples. Please note: this method is not suitable for evaluating the effectiveness of disinfectants. A separate analysis is available for that purpose (see back page).

Crop-specific packages

Comprehensive DNA Multiscan packages are available for a wide range of crops, including greenhouse vegetables, general horticultural crops, grasses and lawns, woody plants, ornamentals, and open-field crops. There are also crop-specific packages and special packages for detecting certain bacterial species or *Trichoderma*.

For periodic monitoring of the most common fungal threats, we have developed DNA Previscan.

Test results are guaranteed to be delivered within three working days.

Additional tests

Eurofins Agro Testing offers various options for pathogen detection. In addition to DNA Multiscan, there is an analysis to determine the effectiveness of your disinfection system: the DesinfectorCheck. In cases of visible or complex crop damage, the PlantDoctors provide an expert diagnosis.

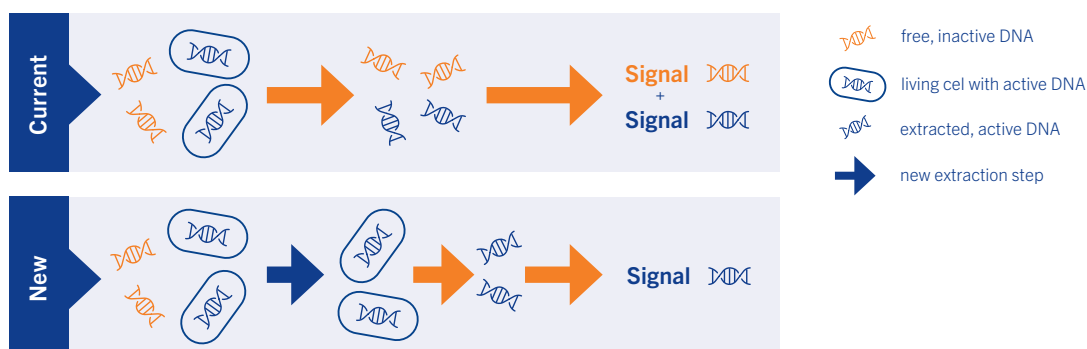
Updated protocol

Every sample submitted for DNA Multiscan is pretreated, whether it is water, soil, substrate, or plant tissue. The result is a purified extract containing active DNA from living fungi and bacteria. But the extract may also include free, inactive DNA from dead material. In the current test, especially in water samples, this free DNA can contribute to the overall signal. In soil and substrate, this is less relevant, as free DNA is broken down more quickly.

Free DNA removed

The updated protocol includes an additional step to remove free DNA. This results in a cleaner signal, allowing for more accurate detection of pathogens.

In some cases, DNA may still be present, encapsulated in cell material. This DNA is no longer part of a living cell but can still trigger a signal. Such encapsulated DNA is often found in water treated with disinfectants like UV or H₂O₂. Although this DNA will degrade over time, it can still produce a signal shortly after disinfection. Its degradation rate depends on several factors, such as time, temperature, and microbial activity in the sample. For this reason, DNA Multiscan is not suitable for assessing the effectiveness of disinfectants.



Which test should you choose?

Eurofins Agro offers a suitable test for every situation. Whether you want to detect pathogens early, verify the effectiveness of your disinfection process, or identify the cause of crop problems – the right analysis gives you quick and targeted insights. The table below helps you make the best choice.

Question	Test	Method	What will you find out?	Timeframe
Is my disinfectant working?	DesinfectorCheck	Determination of colony-forming units (CFU)	Whether your disinfectant is killing pathogens effectively	± 7 days
Which pathogens are present in my water, substrate, or crop?	DNA Multiscan	DNA detection	Identification of key pathogens	3 days
What is wrong with my crop?	PlantDoctor	Microscopy + expert analysis	Expert diagnosis of crop damage	Several days to week