

# SPECTRO ARCOS delivers high-throughput agronomical analysis for Eurofins

## SPECTRO ARCOS Benefits

- ▶ Advanced analysis of crops, grass, soil, silage, forage, manure, and more
- ▶ Simultaneous sample testing for all elements of interest in 60 seconds
- ▶ Maximized throughput
- ▶ Ensured uptime and reliability
- ▶ Minimal learning curve
- ▶ Easy operation
- ▶ Reduced maintenance
- ▶ Lower cost of ownership



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## The Challenge

At the Eurofins Agro Nederland campus in Wageningen, Netherlands, the laboratory can seem more like a factory. Following the demanding seasonal rhythms of Europe's planting, growing, and harvest times, more than 80 lab staffers labor to complete high-speed agronomical analyses for thousands of farmers and agribusiness firms.

Large arrays of testing instruments process almost unending streams of samples from field crops, greenhouse plantings, grass, silage, forage, soil, and manure. The lab identifies chemical elements in the samples that can impact fertilization, feed values, soil and crop health, or food safety. Any analytical mistakes might lead to farmers' planting the wrong crops or supplying the wrong feed — ultimately causing lower harvest yields or less healthy animals.

"It's a busy lab," says Eric Elbers, a Eurofins Agro production support and development analyst who specializes in ICP/IR analysis technologies. "During the high season, we do more than 4,000 measurements per day!"

The facility's mainstay testing models have long included a number of inductively coupled plasma optical emission spectroscopy (ICP-OES) analyzers. These check samples for high concentrations of critical nutrient elements including potassium (K), calcium (Ca), phosphorus (P), manganese (Mn), magnesium (Mg), boron (B), copper (Cu), sodium (Na), iron (Fe), zinc (Zn), and sulfur (S).

Over the years, the lab at Wageningen applied ICP-OES instruments from several leading makers to these tasks. However, they presented problems with learning curves, or ease of use, or cost of ownership. And all had difficulty meeting the facility's paramount requirements: maximum throughput with minimum downtime.

## The Solution

In 2007, for the first time, lab managers tried a SPECTRO ARCOS analyzer. Within a few months, they bought two more. For ICP-OES analyses, the facility has standardized on purchasing only these



workhorse models ever since. The latest-model SPECTRO ARCOS combines peak performance — delivering exceptionally high continuous optical resolution over a wide spectral range, plus stellar sensitivity — with unparalleled throughput and productivity. It also offers exclusive technologies such as true axial-view and radial-view plasma observation in a single instrument; no-purge UV-PLUS sealed gas purification technology; and a no-external-cooling OPI-Air interface.

## The Results

For Eurofins Agro, SPECTRO ARCOS measures up. “We have to measure a lot of samples, and in a short time period,” says Elbers. “For the major elements, we can do a measurement in less than 60 seconds — including flush time.” Equally importantly, SPECTRO ARCOS’s design makes for a truly robust and easy-to-use machine. “You see fewer breakdowns,” Elbers says. “The system needs less handling or troubleshooting, which is a major issue.”

On the software side, Elbers finds method setup is easy. Also the possibility to export methods and import it on other machines is

an advantage as this makes updates to a new version straightforward. That goes for routine operation as well. “Our people don’t need major technical skills to work with it,” he reports.

Where most ICP-OES instruments use external water coolers that can be prone to breakdown, the Eurofins team appreciates SPECTRO’s exclusive air-cooled approach. “We had some problems with other systems,” says Elbers, “and maintenance was an issue. The SPECTRO ARCOS design is great.

“Also, with other systems, you have to continuously flush the optics. That’s a lot of costly argon to use. So having a no-purge design is very fine.”

Eric Elbers sums up the benefits: “It’s easy to use. Easy to handle. Troubleshooting is less. Maintenance is less. Cost of ownership is good.

“At the moment, we’re running 10 SPECTRO ARCOS machines. We’ve been using at least one of these systems for more than 10 years, and it’s still working. I think that should say enough.”

## About Eurofins

Eurofins Agro Nederland offers sampling, innovative laboratory analyses, and clear advice to agribusinesses across western Europe, helping maintain and improve fertilization, feed value, soil and crop health, and food safety. It’s a subsidiary of Eurofins Scientific, a world leader in food, environmental, and pharmaceutical products testing as well as agrosience contract research organization (CRO) services

## About SPECTRO

SPECTRO is one of the world’s leading suppliers of analytical instruments. Its analyzers use optical emission spectrometry (arc/spark OES, ICP-OES), X-ray fluorescence spectrometry (XRF), and inductively coupled plasma mass spectrometry (ICP-MS) technologies in the elemental analysis of materials for industry, research, and academia.

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