Introduction

The science and art of creating and maintaining thriving agricultural ecosystems requires cultivating healthy soil, crops and livestock. The safety and efficacy of agricultural chemicals and their uptake into our food supply requires robust, reliable and effective analytical testing on agrochemicals themselves, through the lifecycle of the food they help to generate. In this customer highlight, we dive into a collaborative laboratory between NutriControl and PerkinElmer. PerkinElmer supplies NutriControl with many of the analytical solutions they rely on to execute their more than 800,000 analyses, with 300 test methods, to serve-up optimal nutritional value and food safety to the agricultural, poultry, cattle, and dairy sectors.

Win-Win Arrangement

At a recent open house held in Veghel, Netherlands, NutriControl and PerkinElmer officially launched a new demonstration laboratory that features some of the most advanced analytical testing instruments available to the global food, feed, nutritional, and dairy industries.

"It is a win-win situation," says Gert Wilgenhof, BeNeLux Sales Leader for PerkinElmer’s Discovery and Analytical Solutions business unit.

"When NutriControl first began thinking about redesigning and expanding its spectroscopy lab, we started a discussion with PerkinElmer to see how the new lab might be designed to accommodate a growing collaboration between the two companies.”
NutriControl and PerkinElmer Collaborate to Serve-up Agricultural and Nutritional Analyses

The result is an expansive new space that includes the PerkinElmer Avio® 500 ICP-OES, Avio 560 Max ICP-OES to ensure high throughput, two NexION® 2000 ICP-MS instruments, and a newly added NexION 5000 multi-quadrupole ICP-MS in the demo laboratory. With the addition of these newest instruments NutriControl is now positioned to become one of the leading food, feed, and nutritional analytical laboratories in Europe.

**NIR Data Transfer from Old to New Unit**

NutriControl traces its origins to the early 18th century when the Cooperative Central Laboratory of Netherlands was established to support the nation’s growing food safety demands from cooperative trade organizations in the animal feed, food, and dairy industries. Following a series of mergers that combined regional cooperatives, NutriControl emerged in 2010 as the core analytical lab of Agrifirm, a Dutch cooperative enterprise with business interests throughout Europe, Russia, China, and South America.

Today, NutriControl is acknowledged for its wealth of experience, expertise, and quality service. Beyond serving as the core lab and analytical competence center for its parent company, Agrifirm, it also supports the Agrifirm Innovation Center, which is engaged in research and development.

NutriControl has a growing list of global food customers in the areas of sample logistics, chromatography, spectroscopy, microbiology, near infrared technology, and nutritional analyses.

In this last-mentioned area, NutriControl uses a number of techniques, including spectroscopy, to measure foods, beverages, and dairy products in areas from fiber, fat content, and protein parameters to nutrients, contaminants, and animal treatment tracer agents, such as titanium oxide, yttrium oxide and chromium (III) oxide. According to Henk Lamers, Manager Analytical Services at NutriControl, that is where PerkinElmer’s ICP-OES is making a big difference. “It offers high reproducibility, where you can measure simultaneously a lot of tracers with little disruption” and that all adds up to faster scans, service, and improved profitability.  

PerkinElmer has not only provided NutriControl with spectroscopy training for some time, but also ensures their processes are always optimized. This is vitally important to NutriControl, which conducts between 750,000 to 900,000 analytical tests annually. To handle that volume of work, NutriControl’s staff of 120 employees is dedicated to running its analytical services at an optimal level using applied LEAN principles. In essence, these principles are meant to eliminate waste and improve productivity and quality by embracing change for the better, towards laboratory and workflow optimization.

**Advanced Savings and Services**

These positive changes and optimized workflows are best demonstrated in NutriControl’s choice of PerkinElmer’s latest instrumentation. The Avio® 500 ICP-OES, for example, allows for multi-element analyses without the flammable gases. In addition, “its matrix-tolerant plasma is generated and maintained with only eight liters of argon due to the flat plate technology to generate the plasma” says Henk Lamers. The result is a 50% argon reduction compared to the previous instruments with helical load coils we used, Lamers adds.

“The addition of the NexION 2000 ICP-MS equipped with PrepFAST is also a game changer for NutriControl. It offers extended dynamic range capabilities to detect high-and low-level elements in a single sample run,” NutriControl’s Henk Lamers says. “It not only offers the fastest and most accurate data acquisition speeds available, the NexION’s advanced technologies make it virtually maintenance free, which is a perfect complement to our focus on optimization and uptime.” Gert Wilgenhof adds, “NutriControl even added a second NexION 2000 that is meant to provide backup services, and it allows PerkinElmer the opportunity to use the instrument to schedule on-site demonstrations as well and further deepen the two companies longstanding collaborative relationship.”
For a company that measures success in terms of precision and speed, NutriControl is quick to point out that it really boils down to a simple equation. It is all about exceptional staff, their sense of real commitment to continual improvement, and the technological advancements of companies like PerkinElmer.

References

1. Ibid.