

Ensuring quality food production

Scientists working in the diagnostic serology department of the Laboratorio Tre Valli, Italy, rely on a Freedom EVO® liquid handling platform to monitor the health of livestock and ensure the quality of their food products.

The Laboratorio Tre Valli, based in San Martino Buon Albergo, Italy, is a part of the Veronesi Group, a family run business specializing in the production and sale of fresh and processed meat products. Veronesi's team of veterinarians, agronomists, biologists and technicians combine experience and tradition with research and the application of new technologies, using sophisticated analytical systems to guarantee the quality of its products. The Company's 'from farm to fork' philosophy means following the entire supply chain – from animal feed and farms to the finished product – to actively monitor each phase of the production process.

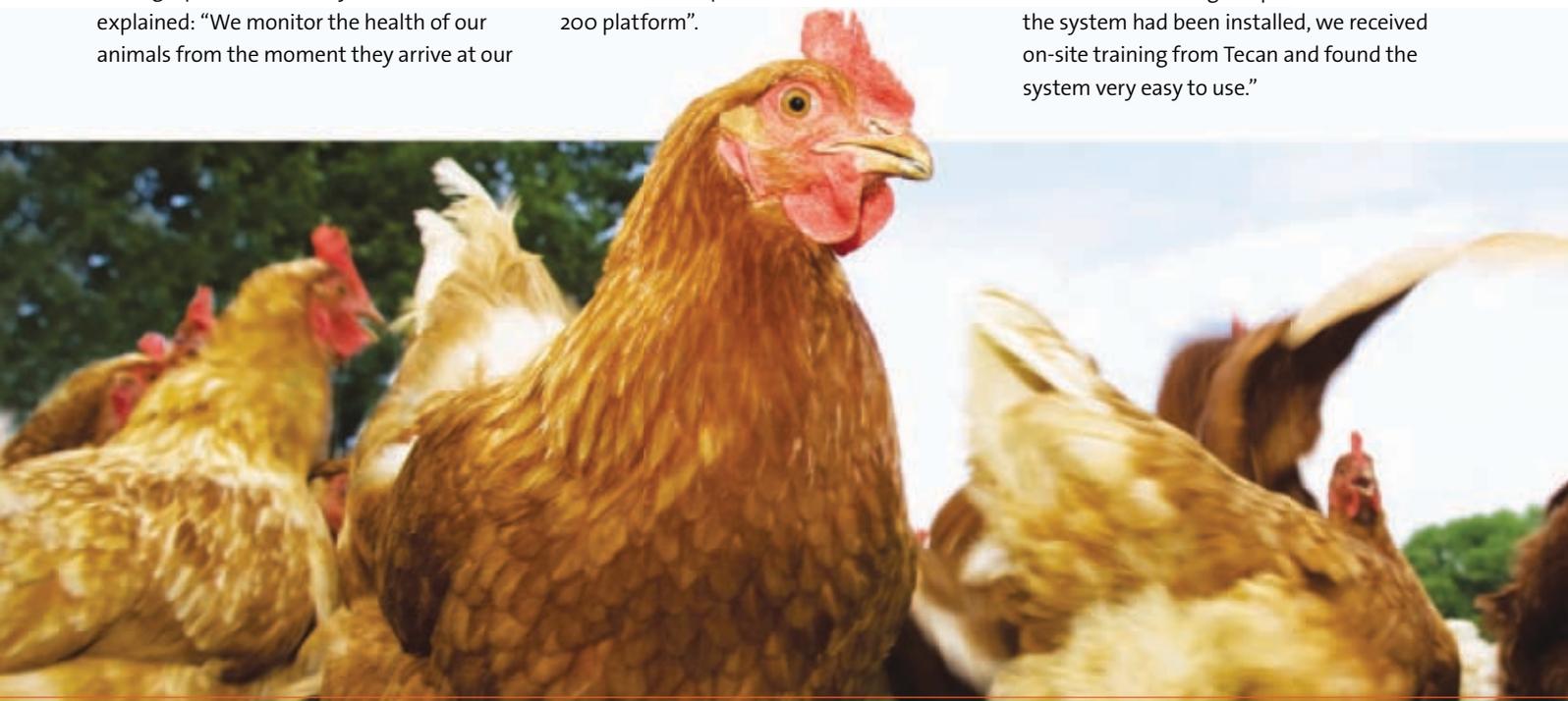
Dr Luigi Sperati, laboratory director, explained: "We monitor the health of our animals from the moment they arrive at our



Fabio Perini with the Freedom EVO workstation

farms, screening them to ensure that they are free from disease, and checking that vaccination programs have been effective. It is important to ensure that livestock are healthy even if they display no symptoms, and, if we should detect a problem, to act quickly and prevent the disease spreading. Our serology department receives samples from 1,400 poultry farms and over 400 pig farms for analysis by ELISA, and we have automated this process on a Freedom EVO 200 platform".

"Our system is equipped with 8-channel liquid handling (LiHa), robotic manipulator (RoMa) and multi-channel (MCA 96) arms, a Carousel™, a Sunrise™ microplate absorbance reader and a 16-channel HydroFlex™ microplate washer. When we were choosing the system, price, compatibility and performance of the individual modules were important to us, and we visited Tecan in Switzerland to look at the instrument in detail before making our purchase. Once the system had been installed, we received on-site training from Tecan and found the system very easy to use."



Fabio Perini, who is responsible for the serology department, continued: “We use ELISA techniques to screen the animals for more than 20 different diseases – including Aujeszky’s disease and PRRS in pigs, Newcastle disease and avian flu in poultry, and IBR and BVD in cattle – and the Freedom EVO now manages all our various samples and ELISA plates, improving our laboratory workflow. Around half of the assays are prepared in house, and we purchase kits for the remaining assays from external suppliers. After sample preparation, which involves separating the serum from the blood sample, the technician simply needs to place the ELISA plate onto the Freedom EVO and start the run. Samples and 96-well plates are identified by barcodes, increasing sample security, and the entire process is controlled by the Freedom EVOware® Plus software, which has been adapted to our needs with the help of Tecan’s software engineers.”

“Our system was designed to accommodate all the modules required for the eight different analyses that we perform in a day, and can be fully loaded with everything we need for the entire day’s workload. On average, it takes 1 hour and 45 minutes to run one 96-well plate, and we can process up to 27 plates – around 2,500 samples – in a nine hour period.” Fabio concluded: “The Freedom EVO provides us with walkaway automation that allows us to perform the same range of analyses while giving the operator additional time to carry out other essential laboratory tasks, secure in the knowledge that the system will reliably generate the final analytical data.”

To find out more on Tecan’s Freedom EVO workstations, visit www.tecan.com/food



Bernhard Grob, Senior Vice President, Head Partnering Business

Leading the debate

In the current economic climate, many companies are looking more closely than ever at where to focus their resources. It makes sense for every company to concentrate efforts on their core strengths and, in the diagnostics industry (IVD market), this often means investing in fundamental research rather than in developing instruments. For example, molecular diagnostics is one of the fastest growing areas of research, where there is still plenty to learn about the underlying chemistry and biology. In such a potentially powerful area of science, it is logical for companies with relevant portfolios to focus their investments on getting ahead in the knowledge game.

Although some diagnostics companies still have instrument development capabilities in house, a fully integrated solution is a major investment in time and money, and an emphasis on developing test menus often makes better business sense. For smaller and fast-growing companies, the skills are simply not there. In either case, there is an increasing need for reliable partners who can take the strain and develop instrumentation as original equipment manufacturers (OEM).

Tecan is uniquely placed to partner these companies, with arguably the broadest product offering in the industry. From system components – enabling technologies like pumps and syringes – through to open platform instrumentation, we offer completely dedicated solutions according to specific applications and workflow requirements. Our real strength, however, lies in the proactive approach we take to developing these platforms. Our understanding of life science applications is invaluable in this regard, as are our thorough knowledge of global quality assurance and regulatory compliance issues, and our global service and support organization. We continue to build on this unique blend of know-how and technology, focusing our resources on what we do best, so that IVD companies can do the same.

Email talk@tecan.com to tell us what you think about focusing resources in the clinical diagnostics industry.