

Contamination control

FRANÇOISE DE GOEIJEN outlines the risks surrounding Salmonella and antibiotic residues in the food chain and how they can be effectively detected and eradicated.

Which are the two main products of DSM PremiTest?

Françoise de Goeijen. Firstly, PremiTest Salmonella, which is used for Salmonella serotyping and is an indispensable tool to combat contamination throughout the food chain. Secondly, PremiTest, which is used for rapid antibiotic residue analysis in samples of food, feed and body tissues.

Why is Salmonella such a problem?

FdG. Salmonella, as a foodborne pathogen, is one of the most stubborn and regularly occurring problems in the food chain and has been the focus of food safety for many decades. This contamination can cause intestinal discomfort, fever and even death in weak and elderly people. Each year millions of people contract Salmonellosis with an economic impact running into billions of Euros.

Why is DSM active in Food Safety?

FdG. Food safety is a theme that has broad relevance within DSM. First of all, it is relevant for the units that produce food ingredients such as enzymes, vitamins and flavours. All these products must be produced and delivered in a safe way, and they must also be processed into end products in a safe way. DSM furthermore contributes to the food safety of other food products by means of preservatives and packaging materials. And finally DSM offers customers screening systems for food products to detect antibiotic residues and Salmonellas.

What is legislation doing to prevent Salmonella in your kitchen?

FdG. For broilers, future legislation will require, as of January 1, 2011, that meat of Salmonella positive flocks has to be cooked. Including similar Salmonella testing for all products imported into the EU. For other food of animal origin, such as turkey, pork, beef and fish, a similar legislation is expected to follow. Eggs of Salmonella positive flocks are already not allowed to be sold as table eggs, but are diverted to the egg processing industry.

What is PremiTest Salmonella?

FdG. PremiTest Salmonella enables serotyping within seven hours. It is a patented technology, combining multiplex PCR and detection of the PCR products on a micro array. The test uses several specific DNA fragments to identify the Salmonella serotype. It can detect and identify 100 serotypes, isolated from at least three different origins. On top of this, more than 300 serotypes have been allocated as Salmonella, with a unique matching genovar code.

What is the advantage of the PremiTest Salmonella?

FdG. It is the only fast product commercially on the market and already tested by several State-labs in Europe with two scientific publications and a growing number of posters. Results can be obtained within one working day after the enrichment and isolation phase. The test requires minimal training and can be executed by most microbiological laboratories. This modern PCR method can replace the traditional Kauffmann White scheme, which needs storage of all the different sera and the special expertise for serotyping.

What can you achieve with the PremiTest Salmonella in the food chain?

FdG. Salmonella contamination can occur anywhere in the food chain; from primary agricultural products, to breeder and grower farms, hatcheries and any other place in the food chain. In order to trace contamination accurately, specialised skills are required, such as sampling of materials and expert knowledge of relevant sampling spots. Rapid and reliable identification of the serotype is an indispensable tool for a successful Salmonella eradication programme.



Françoise de Goeijen graduated from the Agriculture University of Wageningen in the Netherlands as an Agriculture Engineer in 1985. In 2001, she joined DSM being responsible for Meat Ingredients. Later she moved to DSM Nutritional Products as Global Business Development Manager Food Safety. She looks into opportunities for DSM in the food chain from farm to fork.

The use of medication given to farm animals can lead to residues in meat and by products. How can this be tested?

FdG. With the PremiTest. This is a fast and effective antibiotic residue-screening test for antimicrobial substances in meat, fish, eggs, feed, body liquids and tissues. PremiTest is fast – results within four hours – easy to use and cost-effective. The PremiTest is AOAC and AFNOR certified and is used in most national governmental surveillance programmes.

With growing concern about the ever-increasing application of antibiotics in the production of food of animal origin, and growing worldwide concern about the developing of antibiotic resistance in pathogenic bacteria, more control for the usage of antibiotics is taking place in the industry. ■

Premi®
Test Salmonella

Premi®
Test



UNLIMITED TESTING

ROUTINE SEROTYPING TO PINPOINT SALMONELLA
IN THE FOOD CHAIN

Premi-Test Salmonella is the fastest and most reliable method available for serotyping Salmonella. **Premi-Test Salmonella** is the ideal tool to fight Salmonella contamination quickly and effectively in the food chain.

DSM's **Premi-Test**, for rapid detection of antimicrobial residues in food and feed, has been granted official certification in Europe (AFNOR) and the USA (AOAC).

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