ISSUE 2010-3



# NEWS from NEOGEN

**FOR THE MEAT INDUSTRY**

**NEOGEN CORPORATION**
**a Leader in Food and Animal Safety Solutions**

## Neogen launches improved line of rapid pathogen tests, Reveal 2.0

Neogen has made comprehensive improvements to its popular line of Reveal® rapid foodborne pathogen tests, and has relaunched its improved line of products as Reveal 2.0.

Neogen's new Reveal 2.0 tests include *Salmonella*, *E. coli* O157:H7, and *Listeria*.

Like in earlier versions, Reveal 2.0 products are easy to use and interpret lateral flow immunoassay test devices. Improved features include uniform test devices that are designed to be easier to produce, handle and use—while improving accuracy and not significantly altering testing protocols.

"Simplifying our wide-range of tests is a continual goal of ours, and we are very pleased to launch an improved line of tests that will both simplify pathogen detection and improve consistency of results," said Ed Bradley, Neogen's vice president of Food Safety. "These advancements are a result of our ability to bring together our R&D culture media scientists with our Neogen assay teams to find an easier and quicker method to detect pathogens in real-world food processing environments."

The Reveal 2.0 *Salmonella* test system greatly simplifies the *Salmonella* testing protocol by instituting comprehensive sample enrichment procedures that apply to most sample commodities. In the case of raw poultry and meat samples and poultry carcass rinses, Neogen has developed a single enrichment protocol that eliminates the hands-on time and effort of multiple enrichments, while maintaining same-day results.

Reveal 2.0 *E. coli* O157:H7 utilizes an improved antibody cocktail to confer exceptional specificity to *E. coli* O157:H7 and *E. coli* O157:NM. The lateral flow assay demonstrates no reactivity to *E. coli* O157 LPS or problematic *Citrobacter* spp. expressing similar antigens, and gives results in as little as 12 hours with the popular 375 gram sample size.

Like its earlier version, the new Reveal 2.0 *Listeria* test can be used with Neogen's proprietary LESS (*Listeria* Enrichment Single Step) medium, which has been shown to produce accurate results for *Listeria* in only 24 hours for environmental samples, as opposed to other test systems that can take twice as long. In addition, because it is a single-step medium, LESS eliminates the time and effort associated with *Listeria* test systems that require multiple enrichment media.


*Get same-day results with Neogen's new Reveal 2.0 tests and single enrichment protocol.*

Each of the new Reveal 2.0 tests is designed to be interpreted visually, or with Neogen's innovative Reveal AccuScan® III lateral flow test reader. AccuScan III provides an easy method to objectively read, store, and analyze results from Neogen's Reveal lines of foodborne pathogen, food allergen, and mycotoxin tests.

*Meat testing photo by Stephen Ausmus, courtesy of USDA.*

NEOGEN® CORPORATION

To contact Neogen, call 800/234-5333 (USA /Canada) or 517/372-9200 • E-mail: foodsafety@neogen.com
Web: www.neogen.com • Corporate Headquarters: 620 Lesher Place, Lansing, Michigan 48912 USA

# Testing for food allergens a strategy to avoid recalls

Comprehensive testing for allergens in products can sometimes be all that stand between a food manufacturer and a costly recall.

Manufacturers can protect themselves and their customers by testing for the presence of food allergens, which ensures an unlabeled—and potentially dangerous—ingredient did not make its way into a food product.

In addition to accurate labeling, testing can protect a company's reputation by avoid precautionary labels that may dissuade customers.

"Testing for food allergens really is an invaluable tool for food manufacturers," said Ed Bradley, Neogen's vice president of Food Safety. "Unlabeled allergens are considered a chemical hazard by the FDA and knowing exactly what is going into a product can save a company from an expensive recall."

Additional benefits of testing for allergens include:

- Eliminating guesswork, and save product from going to waste or from having to be reworked where the push-through cleaning method is employed
- Testing of CIP solutions, final product, and certain equipment after the sanitation crew has finished can identify sources of cross-contact, and also verify cleanliness before changeover
- Product recalls can cost food companies millions

Allergen verification can be included as a sanitation validation in a company's food safety program, or as part of a sanitation standard operating procedure (SSOP) when changing over from an allergen-containing product.

As part of a sanitation verification and validation system, food manufacturers can use Neogen's environmental swabs to detect the level of allergen present before and after cleaning equipment to ensure the SSOP is adequate.

Allergen verification as part of a food safety program should include supplier control, education of all personnel, identification of allergen sources (which can include raw materials, ingredients, sub-ingredients, rework, processing aids, packaging materials and cross-contact with shared equipment), product identification and good manufacturing practices.

Also, allergen verification can be quickly and easily performed using Neogen's screening and/or quantitative testing products.

For more information, please call Neogen at **800/234-5333** to receive your free allergen handbook.

# Gluten-free misconceptions

***A quick chat with Tony Lupo, Neogen's Director of Technical Services***

***Is there such a thing as gluten-free certification? If so, how does a company become certified?***

*Lupo*

As of right now, there are no official gluten-free regulations so the current status of "gluten-free" claims on food products is "buyer beware". There are some commercial groups that offer certifications for a fee if certain criteria are met; however, they are not universally recognized nor are they tied to any government regulatory body.

***What exactly constitutes gluten-free?***

Currently, food producers can use "gluten-free" labeling as a marketing tool and charge a premium price without repercussions. However, the assumption of the allergic or celiac disease-suffering consumer is that if it is labeled "gluten-free", each lot of product has been tested and is truly gluten-free.

In an effort to ensure a product is gluten-free, it would be strongly advised to the manufacturer to have a rigorous supplier audit program (including testing) in place. Final product testing would then become a mere verification of what is already known.

***Are there any pending gluten regulations that the food industry should know about?***

Within two years, the FDA, Health Canada, and the European Commission all intend to have official regulations for gluten free in alignment with the CODEX Alimentarius, which sets the limit at less than 20 ppm gluten from rye, barley, wheat or any crossbred varieties.

***How does gluten end up in "gluten free" foods?***

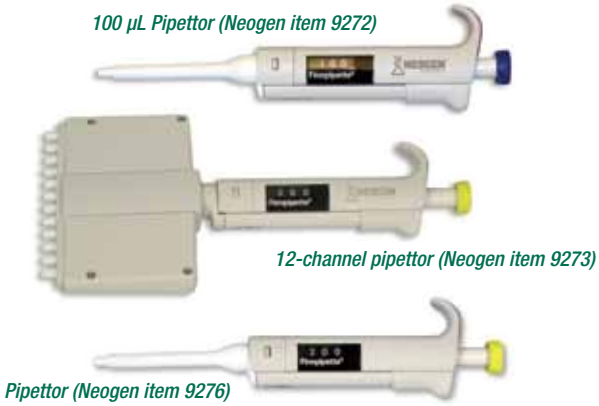
Gluten substitution ingredients are routinely contaminated with wheat, barley or rye. This contamination can occur during harvesting, storage, transport or shipping, or be caused by impure seed stocks at the farm level. It should be known that the USDA allows for commodity contamination of grains with other grains at levels in the tens of thousands of ppm because this cross-contact opportunity is so difficult to avoid and impossible to separate.

# Lab tips

## Pipetting techniques key to getting accurate test results

Here are some tips to keep in mind for the most accurate results when pipetting:

- Don't shake reagents, but swirl them before using. Shaking can cause the reagents to foam. Bubbles can create inaccurate levels of liquid.
- Prime the pipette tips before dispensing all reagents. To prime the tip, draw up the reagent and discharge it back into the same container. Priming the tips coats the inside of the pipette tip so that the volume dispensed will be identical regardless of tip wetting properties.
- When using a multi-channel pipettor, use the overfill method for transferring liquid. To overfill: Depress the pipettor button slightly past the first "stop" and slowly release to draw up more than 100 µL, then dispense the liquid by depressing the button only to the first "stop". This delivers exactly 100 µL. ***Note:*** *After removing the tips from the microwells, release the button slowly so the excess liquid in the tips does not get into the multi-channel pipettor.*
- Always check the fluid levels in your tips prior to dispensing to be sure that the same amount is being collected each time. If the proper amount was not collected or bubbles are present, refill the tip.
- Plungers on pipettors should always be depressed and/or released slowly.
- Most pipettors should be lubed and calibrated at least every 6 months. Please contact your sales representative, or Neogen Technical Services for assistance.



*100 µL Pipettor (Neogen item 9272)*

*12-channel pipettor (Neogen item 9273)*

*Pipettor (Neogen item 9276)*

## Disposal of microbiological waste important part of lab procedures

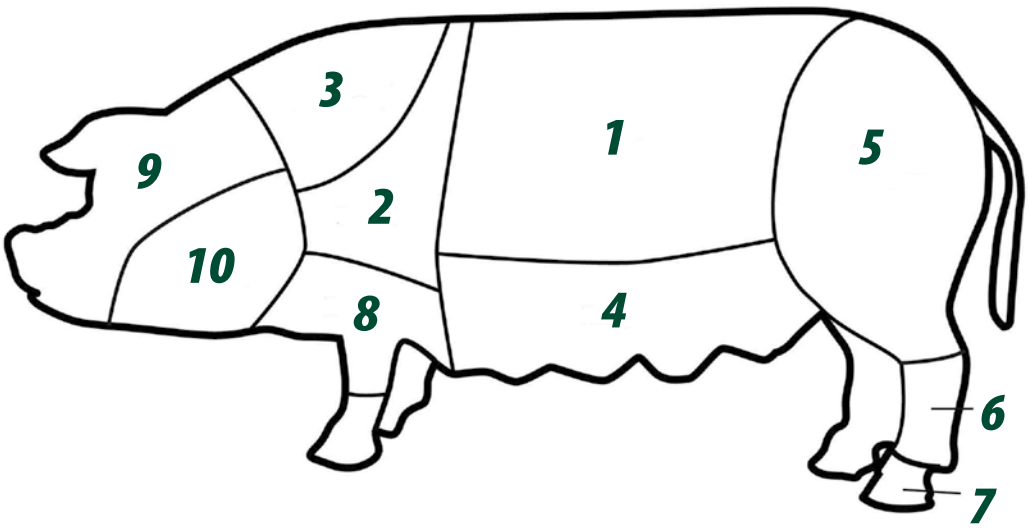
Microbiological waste should be disposed of in accordance with all applicable local, state and federal regulations. Some suggestions for disinfecting waste include:

1. **Autoclaving:**
   - Autoclave the waste for 60 minutes at 121°C.
   - Color-changing autoclave tape should be used to indicate proper temperatures were achieved during the decontamination run.
   - If autoclave bags are used, the top must be loosely closed to allow steam to penetrate into the bag. If the contents of the bag are low in moisture, water should be added to the bag prior to autoclaving.
   - The time/temperature relationship for proper autoclaving is dependent upon steam, at the proper temperature, reaching all areas of the bag containing the contaminated material.
2. **If an autoclave is not available, a pressure cooker capable of achieving 15–20 lbs. of pressure could be used as an alternative:**
   - The time material remains at this pressure should also be 60 minutes and indicator autoclave tape should be used.
   - Proper precautions, as mentioned for autoclaving, should be observed to ensure proper temperature steam penetrates to all items that might be contaminated.
3. **An alternative to autoclaving and utilization of a pressure cooker is to decontaminate with a chemical disinfectant:**
   - Use household bleach, sodium chlorite.
   - Objects to be disinfected prior to discarding should be immersed in a 0.5% bleach solution (1 part commercially-purchased bleach to 9 parts of water) for 30-60 minutes.
   - Liquids that need to be disinfected can be treated for at least an hour with 1 part of bleach to 10 parts of liquid, for example, 25 mL of bleach to 250 mL of liquid. A higher concentration of bleach should be used if the liquid to be disinfected contains a high organic matter load, for example 30 mL of bleach into 250 mL of liquid containing ground beef.

**800/234-5333** *(USA/Canada)* or 517/372-9200
foodsafety@neogen.com • www.neogen.com

## *Pop Quiz* —do you know your butchery cuts?

*Write in the corresponding number next to each listed part. Answers below.*




___ Leg and Gammon

___ Hock

___ Trotter

___ Belly

___ Loin

___ Hand

___ Blade

___ Spare Rib and Roast

___ Cheeks/Jowel

___ Head

***Answers:*** 1. Loin 2. Blade 3. Spare Rib and Roast 4. Belly 5. Leg and Gammon 6. Hock 7. Trotter 8. Hand 9. Head 10. Cheeks/Jowel

NEWS from NEOGEN

Neogen Corporation: a Leader in Food Safety Solutions
620 Lesher Place • Lansing, MI 48912 USA