

# DuPont Pioneers Food Safety Testing Process

Cori Anne Natoli, The News Journal

WILMINGTON, Del. (AP) -- The grocery list for Thanksgiving dinner seems harmless enough. Turkey. Cranberries. Green beans and pumpkin pies.

The safety of the food — that's an item on someone else's list.

Inside the labs of DuPont's Nutrition and Health business at the Experimental Station, a team of scientists in Delaware whose life work is rooted in improving food safety testing technologies advance the BAX system, which the firm invented to detect foodborne pathogens, including salmonella, listeria and E. coli.

This month, the BAX system was adopted by the USDA Food Safety and Inspection Service as the official method to detect E. coli in meat, carcasses and so-called environmental sponges, or swabs to detect pathogens in a work environment. The assays also were added to the group's Microbiology Laboratory Guidebook.

"It's a very, very powerful technique," said George Tice, research and development director of food diagnostics for DuPont Nutrition and Health. "One very nice feature about it is, depending on how you define your target, you can make it very specific for a strain of bacteria or a genus of bacteria."

In the late '80s, now-retired DuPont scientist Vinay Chowdhry and a team zeroed in on a Nobel Prize-winning technology called polymerase chain reaction (PCR), which uses the DNA in an organism to identify another specific organism.

DuPont became a pioneer in advanced food safety testing by applying the prize-winning science to the pathogen detection process in food and became the "first to introduce an automated detection system," Tice said.

Before DuPont's BAX system was introduced, the gold standard was taking cultures, measuring them and letting them grow in a petri dish, which took at least five days, said Cathy Andriadis, global public relations leader for DuPont Nutrition and Health.

In contrast, the BAX system delivers results in 10 hours or less.

Meat, dairy, poultry and produce processors, large manufacturers of food and third-party labs that conduct food safety tests in products and in work environments are DuPont's customers.

The BAX system has been certified by the U.S. Food and Drug Administration and U.S. Department of Agriculture for more than a decade, along with China's equivalent food regulatory authority. It is an integral part of DuPont's food diagnostics work, which operates in a global industry of food pathogen testing that is growing 8 percent to 10 percent each year.

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"The customer looks for more information," Tice said. "The most we can get now is four targets. One target is the positive control, the rest are three different strains of E. coli. We're shooting for 12 to be detected."

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