

## Food companies look for bacteria killers

NEW ORLEANS (AP) — Prunes can kill *E. coli* bacteria in ground beef. Cinnamon will do the same thing in juice. Salt helps destroy a pathogen that contaminates chicken.

Prodded by lawsuits and government regulations, the food industry is looking everywhere from kitchen cupboards to university laboratories for weapons against dangerous bacteria.

One of the most sophisticated weapons being pitched to food scientists at their annual convention this week is a system that uses high pressure to destroy microbes. High-tech packaging that kills bacteria also is under development. At the University of California-Davis,

lasers are under study as an antimicrobial treatment.

"These products are responding to a demand," said Carol Tucker Foreman, director of the Consumer Federation of America's Food Policy Institute. "You've got to have a whole bunch of them because one thing will work well for one company, and others will work for other companies."

Foreman cautioned that additives and treatments should not become substitutes for properly cleaning plants and food products.

Food companies are "trying to get as much information as possible" on new antimicrobial treatments, said Alice Johnson,

director of food safety programs for the National Food Processors Association.

Lawsuits and food recalls for microbial contamination can be devastating to a company's public image, if not its bottom line. Sara Lee Corp. last week pleaded guilty to a misdemeanor and agreed to pay \$4.4 million for selling tainted meat blamed for at least 15 deaths in 1998.

About 76 million cases of food-borne illness are diagnosed nationwide each year, resulting in 5,000 deaths and 325,000 hospitalizations, according to the government.

The closest thing to a magic bullet that the industry has so far is irradiation, either with elec-

tron beams or radioactive materials. The government approved the use of irradiation on meat last year and is expected to decide soon whether to allow it for luncheon meats, hot dogs and other precooked meat products.

Irradiation equipment is expensive and consumer acceptance has been slow.

Sara Lee is now heating some of its meat products to kill *Listeria monocytogenes*, the bacteria that caused the 1998 poisonings, Johnson said. Other meat companies are trying various additives to kill listeria.

ConAgra Foods subsidiary Armour Swift-Ekrich got the Agriculture Department's permission last year to use higher

amounts of a common meat flavoring, sodium diacetate, to prevent listeria growth.

It remains to be seen whether prune growers will sell meat companies on their product. According to a Kansas State University study presented at the Institute of Food Technologists convention Monday, the equivalent of one tablespoon of prune puree per pound of hamburger can kill more than 90 percent of the *E. coli*. The secret is believed to lie in a couple of acids that prunes contain.

"Yes, it may have antimicrobial properties, but I wouldn't stop cooking the meat. The flavor is fine," said Steve Kenney, a University of Georgia graduate

student who sampled one of the prune burgers at the California Dried Plum Board's booth.

Other research has found a combination of cinnamon, carbon dioxide can destroy *E. coli* in apple juice; a solution of salt and phosphates can kill campylobacter, a pathogen in chicken; the herb ginkgo is deadly to listeria.

A high-pressure system developed by Flow International of Kent, Wash., is attracting attention. Food is submerged in water and subjected to high pressure to fatally damage bacteria without affecting the food itself. Processors that do want to use heat treatment have been attracted to the system.



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