

Flexible Packaging's Role in Food Safety

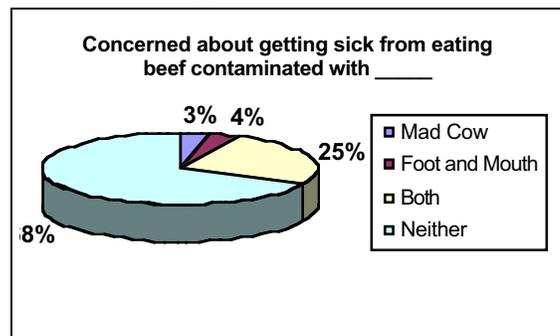
• by *Huston Keith* ••••••••••

The danger looms

Our nation's food supply is seemingly threatened at every turn. *E.coli* outbreaks a few years ago caused severe illness and death. "Mad cow" and foot-and-mouth diseases has resulted in quarantines of beef cattle in certain countries. Recalls of meat products due to *listeria* and other pathogens are increasingly commonplace.

Deaths of postal workers and others from anthrax spores apparently placed in envelopes by terrorists have raised fears of a dispersing them in the food supply. Even the prospect of implanting cyanide or other toxins in food and drugs is resurrecting old product tampering concerns.

To be sure, the actual danger to consumers is much less than imagined. Foot-and-mouth disease, while devastating to livestock, causes virtually unnoticeable symptoms humans at all. "Mad cow" or bovine spongiform encephalopathy (BSE) is thought to be linked to the human variant Creutzfeld-Jacobs disease (vCJD), although there are no BSE occurrences in North America. However, about 1 in 3 consumers in the U. S. are concerned about getting sick from eating beef contaminated with *either* "Mad cow" or Foot-and-mouth disease, according to a NextResearch survey of 2263 consumers.



E. coli, anthrax and implanted toxins are fortunately rare, but quite deadly, thus certainly deserve vigilance to prevent any occurrence. More common are pathogens such as *Salmonella* and *Listeria*, while rarely fatal, but sicken millions annually.

What can flexible packaging do?

What can the packaging industry, specifically flexible packaging suppliers, do to help keep our food supply the safest in the world? What should suppliers do? Is it enough to supply materials specified by the packager? Or should they be developing new materials and services to help customers provide safe food? And what else will be demanded of packaging suppliers to ensure a safe supply?

These are complex questions, thus there are not simple answers. In a new study *Packaging, Food Safety and the Consumer*, Keymark Associates is exploring the many options available. Preliminary results indicate that flexible packaging suppliers can not only play a role, but also add value in assisting customers in addressing this issue.

Some suppliers have been active for decades in helping customers provide safe perishable foods. Not only do they provide the appropriate barrier films, but they also assist in shelf-life studies, providing microbiological testing and making

recommendations for packaging practices, equipment and, of course, films. And the reward is high loyalty and value to these suppliers.

Flexible packaging continues to play a vital role in preventing product tampering with shrink bands. First used for over-the counter pharmaceuticals after the Tylenol poisoning incident in the '80s, they have become a fixture in many food and beverage items as well. Bands will account for \$70 million in sales in 2004, according to Keymark Associates.

New technologies for meeting the attack

Converters can also address these issues with new technologies. In particular, research is underway to incorporate antimicrobials substances. And an industry group is expediting approvals of materials for irradiation.

Four antimicrobial technologies are being developed to incorporate into packaging films. Silver ions from Agion are being used in processing equipment and absorbent pads and testing is underway with flexible films. Microban, an organic material, is also used in textiles, as well as pads and processing equipment. Chlorine dioxide from Maxwell Chase is also used in pads. And Mitsubishi is testing a zeolite material.

After a long, difficult marketing process, irradiation appears poised to become commonplace, with its implementation by the U.S. Postal Service to neutralize anthrax and other pathogenic contaminants. However, use in packaging is still problematic. Some films are not yet approved for use in irradiation, mostly because they were never tested. An industry group is working with FDA to obtain approval on a broad range of materials. Still, some materials may not always work well in some forms of irradiation. They may weaken or they may shield the product from it. Converters need to ensure that their materials work.

Defending from the peril

The flexible packaging industry has both the responsibility and opportunity to ensure food and drug safety. Just meeting specifications will not provide success in this new world. Converters that win will be the ones that actively help their customers provide safe products, with enhanced services and technologies.