The "Shrouded Threat" of Foodborne Parasites

The authors of the IFT Scientific Status Summary, "Parasites and the Food Supply" (pp. 72–81) describe a food safety concern that is generally underrecognized but is probably on the increase due to the globalization of the food supply. They note that food parasitology is still an emerging discipline, one that is often misunderstood and "... relegated to the status of a sub-specialty in between microbiology and zoology, ..." They also indicate that parasites, as etiologic agents of human illness, are "sometimes considered only in the context of tropical medicine, despite mounting evidence of their prevalence in temperate and arctic climates, ..." In my judgment, the authors are "right on." Without a doubt, the globalization of the American food supply has a decided effect on the inputs, dynamics, and outcomes of the four risk assessment elements: hazard identification, hazard characterization, exposure assessment, and risk characterization. Not only are vast quantities of food moving across national borders, but millions of people are traveling internationally. This massive migration can represent an additive or multiplying factor in food safety risks.

Within the United States, a single dinner entrée can consist of ingredients from many countries. For example, sea bass with a mango chutney sauce could contain seafood from Chile that was processed in China. Further, the thickeners or gums could come from Germany, the mango puree from Ecuador, ginger root from a variety of Asian countries, and spices from India or elsewhere. And that's just for the entrée! As the authors indicate, produce for the salad can be picked "thousands of miles from our borders, and can be consumed fresh in America's heartland before the weekend. Moreover, cultural habits have shifted toward the consumption of fresh, i.e., raw and undercooked foods that bypass important preparatory measures intended to reduce or prevent infections by pathogens—especially the long surviving encysted forms of foodborne parasites." Importantly, food safety risk exposure scenarios. This new and generally unrecognized risk of foodborne parasitism can be considered a "shrouded hazard."

Advanced analytical technology now yields more sensitive measures of contaminants and/or carcinogens, forcing regulatory agencies to reexamine current risk levels. While innovative food control systems, such as HACCP, are being implemented and increased efforts are being made to provide global standards for foods, we need to understand the hazards and risks resulting from the explosion of international trading in foods. There are also the corollary questions of how these risks can be best identified and managed.

The Joint FAO/WHO International Codex Alimentarius Food Standards Programme is the best vehicle to recommend baseline international food standards. Codex is currently engaged in intense deliberations in "intricately intertwined" and seemingly refractory macroglobal issues. As Codex expends its efforts on these overarching and controversial issues, not to be lost in the shuffle as other more "recognizable" emerging food safety issues are addressed. The public is not fully aware of the possible health impacts of globalization of the food supply. The task of ensuring food safety is so huge and complex that no country or organizational entity will be able to accomplish the job alone. Emerging global microbiological and chemical concerns, coupled with the international food trade explosion, including direct retail product sourcing and changing consumer food preparation and eating habits, will likely change consumer food safety risk exposure scenarios. This new and generally unrecognized risk of foodborne parasitism can be considered a "shrouded hazard."