The Hidden Dangers in Organic Food

Written by Dennis T. Avery on November 1, 1998

According to recent data compiled by the U.S. Centers for Disease Control (CDC), people who eat organic and "natural" foods are eight times as likely as the rest of the population to be attacked by a deadly new strain of E. coli bacteria (0157: H7). This new E. coli is attacking tens of thousands of people per year, all over the world. It is causing permanent liver and kidney damage in many of its victims. The CDC recorded 2,471 confirmed cases of E. coli 0157: H7 in 1996 and estimated that it is causing at least 250 deaths per year in the United States alone.

Consumers of organic food are also more likely to be attacked by a relatively new, more virulent strain of the infamous salmonella bacteria. Salmonella was America's biggest food-borne death risk until the new E. coli O157 came along.

Organic food is more dangerous than conventionally grown produce because organic farmers use animal manure as the major source of fertilizer for their food crops. Animal manure is the biggest reservoir of these nasty bacteria that are afflicting and killing so many people.

Organic farmers compound the contamination problem through their reluctance to use antimicrobial preservatives, chemical washes, pasteurization, or even chlorinated water to rid their products of dangerous bacteria. One organic grower summed up the community's attitude as follows: "Pasteurization has only been around a hundred years or so; what do they think people did before that?"

The answer is simple. They died young.

In truth, until the last few years the threat of food-borne bacteria was relatively mild in the U.S. It was prudent to refrigerate one's food and wash one's hands before preparing food or eating, and those simple procedures kept food-borne illnesses to a minimum. On occasion, neglect of these rules would cause a family to suffer severe stomach aches. And every year a few weak individuals—the very young, the very old, or those who were already quite ill—would die from exposure to food-borne bacteria.

But the new E. coli attacks even the strong. It inflicts permanent damage on internal organs. It even kills healthy adults. The new salmonella is nearly as dangerous.

Harsh Organic Reality

As these lethal new bacteria spread, organic foods have clearly become the deadliest food choice. Put simply, animal manure is too dangerous to use on food crops if there is any alternative whatever. To eat produce grown with animal fertilizer is like playing Russian roulette with your family's dinner table. It only takes one contaminated food product to bring on a tragedy.

"I was really horrified that something I felt was so wholesome and so healthy and so safe for my children could really almost kill them," said Rita Bernstein, a Connecticut housewife. In 1996, two of Bernstein's three daughters suffered E. coli 0157 attacks that were traced to organic lettuce. Halee, the younger daughter, is still suffering from reduced kidney function and vision problems. Bernstein is grateful that her daughters are still alive. "There are a lot of families out there that don't have their Halees," she says.

The new reality is quite sobering. Organic and "natural" food producers supply only about 1 percent of the nation's food, but the Centers for Disease Control have traced approximately 8 percent of the confirmed E. coli 0157 cases to such foods. Consumer Reports recently found much higher levels of salmonella on free-range chickens than on conventionally raised ones. Many other organic foods also pose higher salmonella risks than "supermarket" foods. To be sure, most strains of salmonella are mild and are easily killed by cooking one's food adequately. But the new salmonella, S. typhimurium, is far stronger than other varieties. Infection often proves fatal. The CDC estimates that there are up to four million cases of salmonella poisoning per year in the U.S., and it has identified one-fourth of the culture-confirmed cases as the more virulent S. typhimurium.

As if that were not frightening enough, organic and "natural" food consumers also face increased risk of illness from toxins produced by fungi--and some of these toxins are carcinogenic. Refusing to use artificial pesticides, organic farmers allow their crop fields to suffer more damage from insects and rodents, which creates openings through which fungi can enter the fruits and seeds. The U.S. Food and Drug Administration (FDA) regularly tests samples of various foods for such dangers, and it routinely finds high levels of these natural toxins in organically grown produce. It found, for instance, that organic crops have higher rates of infestation by aflatoxin, one of the most virulent carcinogens known to man. Unfortunately, the FDA has issued no public warnings about these risks so far.

The organic-food sector stresses the "natural" production of foods and beverages—even to the point of refusing to pasteurize milk and fruit juices. As a result, many people become seriously ill after consuming products they mistakenly believe are purer than other foods. For instance, in 1996 E. coli 0157 sickened more than seventy people who contracted it from unpasteurized apple juice produced by the Odwalla Juice Company. One young girl in Colorado died because of this. Odwalla was recently fined more than $1 million in the case and now pasteurizes its juice. But more than 1,500 other companies still cater to the "natural means raw" idea by selling unpasteurized beverages that can prove deadly.

Even without pesticides and pasteurization, producers could render their organic and natural foods safe through a well-known process called irradiation. Irradiation uses low levels of gamma radiation to kill bacteria, and the process also preserves the freshness of foods such as strawberries and chicken. But when the U.S. Department of Agriculture (USDA) recently proposed an organic-food standard that would have allowed irradiation, the plan drew more than 200,000 angry protests from organic farmers and caterers. In response, the USDA will reportedly eliminate irradiation from the final organic food standard.

Fresh from the Manure Pile
To be sure, it is an overstatement to say, as one physician recently did, that organic food is "grown in animal manure." Few organic farmers actually put fresh manure on their crops. Most of them compost the manure for several weeks before using it on their crops. But the composting guidelines have been fuzzy and are probably inadequate. A common rule of thumb is to compost for two months at 130 degrees F. or better. The bad news is that a study by Dr. Dean Cliver of the University of California at Davis found that the deadly new E. coli 0157 bacteria can live at least seventy days in a compost pile--and it probably takes an extended period at 160-degree heat to kill it.

Few organic farmers use thermometers to check the safety of their compost piles, or even keep accurate records on how long a given mass of compost has been sitting. For most organic farmers, management of their natural fertilizer is a casual matter of shifting compost piles around with a tractor-mounted front-end loader.

The real surprise is that nobody is telling the public about the new dangers from organic food, or trying to persuade organic farmers to reduce these risks. Activist groups, government, and the press--all of which have shown no reluctance to organize crusades about matters such as global warming, tobacco addiction, and the use of pesticides--are allowing organic farmers to endanger their customers without any publicity whatever. A press corps eager to find headline-worthy dangers would long ago have exposed any other farmers guilty of so blatantly and unnecessarily endangering the public. And other farmers would certainly have been condemned, or even closed down, by government regulators.

Organic foods, however, are politically favored. The Green lobby self-righteously protects them because it urgently wants the public to perceive organic farming as an environmentally benign alternative to the use of pesticides and chemical fertilizers. I recently criticized organic farming on a Canadian Broadcasting Corporation program, and the network was peppered with protest calls before the program even went on the air!

Even newspaper food editors still tell their readers that organic food is chic, healthy, and "earth-friendly." In general, the U.S. press has been blithely abetting the scare tactics of the environmental movement for decades, and the food writers pride themselves on being at least as "green" as their colleagues on the news pages.

With truly mind-numbing aggressiveness, the organic farming advocates have even gone so far as to claim that "industrial farming" created E. coli 0157. They argue that consumers should protect themselves by buying organic products from local farmers, a "recommendation" that blatantly serves their own self-interest. The truth is, no one knows where the new E. coli strain came from, but we do know that bacteria are constantly mutating as a natural consequence of their rapid reproduction. Allowing bacteria to proliferate, as organic farmers do, is not the way to minimize mutations.

Strangely Silent Regulators

Federal regulators have largely been cowed into silence. The intensity with which organic-farming believers and eco-activists defend their old-fashioned type of agriculture rivals the intensity of the religious fanatic. For instance, one consumer recently said, "I think trying to eliminate the poisons and pesticides from our food is a great way to eliminate the chemical industry's destruction of the earth." As a consequence of such attitudes, the CDC has neglected its responsibility to warn the public about the newly increased dangers of organic foods. One CDC doctor--Dr. Robert Tauxe, Chief of the CDC's Food-Borne Diseases Branch--wrote an article in the Journal of the American Medical Association (May 8, 1997) highlighting the dangers of "organically grown, unprocessed foods produced without pesticides or preservatives." The CDC was promptly flooded with angry phone calls from passionate believers in organic farming. The doctor now says that he "doesn't know" whether organic food is more dangerous than conventionally produced food. The CDC has refused to grant interviews on the subject.

With similar obtuseness, the U.S. Environmental Protection Agency (EPA) has recently issued a draft of a new consumer brochure highlighting the unproven "dangers" from pesticide residues--and recommending organic foods. But after forty years and billions of dollars in research, scientists are still looking for the first victim of pesticide residues, whereas the new E. coli strain attacked thousands of Americans last year. Many of these victims suffered permanent internal organ damage, and hundreds of them died. The EPA's draft brochure on pesticide residues simply appears to reflect the antipesticide biases of the agency's administrator, Carol Browner, and her political patron, Vice President Gore.

Other federal agencies have displayed the same bias. The Food and Drug Administration, for instance, has failed to issue any warnings to consumers about the higher levels of natural toxins their researchers regularly find in organic foods. And the Department of Agriculture, which employs some of the world's best food scientists, goes out of its way to court the organic-farming supporters and allied eco-activists, and makes a strenuous effort to find good things to say about "alternative agriculture."

"Natural food" proponents claim that organic farming is "earth-friendly," but it's not. The ugly secret of organic farming is that its yields are only about half as high as those of mainstream farmers. Approximately one-third of the average organic farm is not planted to marketable crops at all; it is planted to green manure crops (such as clover) to build up the nitrogen fertility of the soil. If the organic farmers gave up animal manure as a nitrogen source, the percentage of land they keep in green manure crops would have to become even higher. Mainstream farmers take their nitrogen from the air, through an industrial process that requires no land to be taken from nature.

Also, the organic farmers suffer higher losses from destruction by pests. They expect it. Books on organic farming tell their readers to live with it. "I'm lucky to get half as much yield from my organic acres as from my regular fields," said the manager of a 50,000-acre cooperative farm in England. His experience is confirmed by numerous studies from a dozen different countries.

Need for Higher Yields

For all these reasons, widespread organic farming is simply not a viable option at this time. The first consequence of a global shift to organic farming would be the plowdown of at least six-million
square miles of wildlife habitat to make up for the lower yields of organic production. That is more than the total land area of the United States.

Agriculture already takes up 36 percent of the world's land surface. (All the world's cities cover only 1.5 percent.) A world with a peak population of 8.5 billion affluent people in 2050 will need at least 2.5 times as much farm output as we have today.

Absent a worldwide catastrophe involving billions of human deaths, this demand is inevitable. We will not be able to count on people to change their diets and accept less protein. There is no global trend toward vegetarianism today, nor any sign of one. In America, for example, less than 4 percent of the population is vegetarian, and 95 percent of U.S. vegetarians consume milk, cheese, eggs, and other expensive calories. Less than 0.05 percent of the affluent people in the world give up livestock products completely.

In fact, the worldwide trend is in the opposite direction. Countries such as China, India, and South Korea are leading the biggest surge in demand for meat and milk the world has ever seen. It is now probably too late to save wildlands by preventing people from acquiring a taste for meat and milk, and there is certainly no sign of mass conversions to vegetarianism around the globe.

If the world does not triple the yields on the high-quality land currently in farming, we will pay the price not in human famine but in forests and wild meadows cleared to produce more meat, milk, and produce.

Modern farm chemicals are not entirely without risk, but the hazards they pose to people and wildlife are near zero and declining. For instance, Captan, one of the pesticides on the Greenpeace hit list, is one ten-millionth as carcinogenic as ordinary drinking water. EPA Administrator Browner is trying to decertify an herbicide called atrazine because a few parts per billion turn up in some of our drinking water. But Browner's own staff concedes that to get above the "no-effect" level in the rat tests that ascertain cancer risk, you would have to drink 150,000 gallons of water per day for seventy years. And for nine months of the year you would have to add your own atrazine! The health risks of modern pesticides are minimal.

Nonetheless, advocates of organic farming like to ask, "What's more dangerous, pesticides or horse manure?" The answer may surprise them. Researchers are still looking for the first human death from pesticide residues, fifty years after DDT was introduced and thirty years after its use was banned in the United States, but manure is apparently claiming lives almost daily through bacterial contamination of organic food.

Giving up pesticides would mean the certain destruction of millions of square miles of wildlands, much of it in the species-rich tropics. Because much of the world's biodiversity is in those lands, a move toward widespread organic farming would cost nature far more than the careful use of today's safe, narrowly targeted pesticides, high-powered seeds, and factory-produced fertilizers.

Organic food buyers are, unfortunately, twice losers: They and their families accept deadly risks from truly dangerous new food-borne microorganisms, and, at the same time, their choices increase the likelihood that the people of the next century will plow down massive tracts of wildlife habitat to make way for low-yield crops.

Unless the press and government agencies fulfill their obligation to warn people of the dangers of these foods, the number of such incidents will continue to rise. These risks are easy to overcome, but farmers and consumers must know the dangers and act accordingly.