



EXCERPT,
Eating Between the Lines
The Supermarket Shopper's
Guide to the Truth Behind Food
Labels, St. Martins Press
Kimberly Lord Stewart

Chapter One

Greener Acres Without Changing Your Address or Your Politics

Betting the Farm on Organics

“I am a farmer’s daughter,” I told myself again and again as I knelt on the ground, pushing away the soil to see if the green tint had faded from the pate of new spring potatoes. My sons, then five and two years old, stood by with a sturdy bucket and garden hose to give our bounty a good wash. We tugged at the wilting green tops, expecting to uproot clusters of walnut-sized starchy gems—instead, naked stems. We were stunned to be outsmarted by a sight-impaired mole, with a keen sense of smell. It, too, had patiently waited for the precise moment of agricultural perfection, and it had stripped our potatoes clean from the tops.

With looks of fortitude on their tiny brows, mud on their knees, and shovels perched on their sunburned shoulders, the boys took in their first farming lesson and headed to the back pasture to capture the thief. Our potato experiment came as a directive from my father, a Michigan farmer. “Buy organic potatoes,” he said after hearing about a neighboring potato farmer whose kidney had shriveled to an unrecognizable mass. The suspected cause was decades of exposure to potent chemicals applied to his potato crops.

This was perhaps the first fatherly advice I can recall. While nearly all dads dish out dating advice to daughters, most of his paternal advice and our conversations edged around farming and food. After years of estrangement from divorce and what I call unpredictable family weather patterns, our tie was at times as deeply rooted as dandelions or as fragile and bitter as spring radish shoots.

But from season to season, no matter the family climate, his homespun stories about his Midwest hundred-acre woods kept me fastened to a lifestyle that few ever experience in this urbanized society—the family farm. From an early age, my father learned that self-sufficiency was no farther than the backwoods. Orion was his lantern and the oak and maple his companions. As an adult, all he needed to fill the pantry for a year was a fishing pole, a garden, a hog in the pen, a dairy cow in the barn, chickens in the yard, grain in the fields, and a deer hanging in the shed.

He laughed at our potato-thieving mole and his tone let on that I finally understood, at least partially, the complexity and unpredictability of farming. Clever moles are just one of many problems potato farmers are up against. Beetles, blight, and fungus that can wipe out entire crops are common enemies, which is why this particular sector of agriculture has been so reliant on insecticides and fungicides—hence his advice to buy organic potatoes.

This was in the late 1980s, and I couldn't have told you what an organic potato really was or where to find them at the time, even though my address was in California's Central Valley, the nation's fruit, nut, and salad bowl. I had moved there from Manhattan and my prior zip codes included Washington, D.C., Hawaii, and London—all a far cry from my new rural residence. Perhaps my need to grow potatoes (along with peaches, plums, tomatoes, and cucumbers) was due to my desire to play catch-up. Conceivably, by playing in the dirt with my two boys I could make up on lost father-daughter years. Like reading through a family album of long-forgotten relatives in one afternoon, my hope was to learn about my familiar farming ancestry in one growing season; instead it's taken me more than twenty years.

In time, the navy ordered my husband to more suburban settings in Canada, Italy, and Colorado, but I didn't forget my father's advice. Still, organic vegetables were hard to find and the added expense wasn't something I could easily afford. For many years I was what the industry calls a cherry picker. If organic produce was on sale and within easy reach I bought it; otherwise there were no organic potatoes in my shopping cart.

It wasn't until years later, during my first job in journalism, that I realized my father's down-to-earth advice did indeed have merit. I was thirty-five years old and working as an unlikely intern for a media and publishing company that served the health-food industry. The industry is known for utopian ideals and very liberal views. As I was a navy wife, my politics leaned toward the center and my wardrobe didn't include a single pair of Birkenstocks.

What's more, my relatives who made their living tilling the Midwestern soil were nothing like this breed of farmers. It seemed that all the organic supporters I interviewed staked their entire being on organic farming. For them it was a passion, almost a religion. Even my sister-in-law, who had lived in Seattle for decades, packed up and started a Community Supported Agricultural (CSA) farm in Mount Vernon, Washington. She farms as many as forty different items, including fruits, vegetables, eggs, and flowers, for her customers who collect their weekly share of food directly from Riversong Farm.

Why Buy Organic Produce?

Even with my loose ties to farming and my work in food journalism, which at the time was smack dab in the middle of the organic food revolution, I still needed pragmatic, methodical, Midwestern-style answers that transcended emotions. During some particularly tight financial months, the higher price for organic food was just too costly.

Most likely you've read, as I had, that organic fruits and vegetables are not subjected to pesticides. But why then were there newspaper headlines saying that organic foods had pesticide residues from chemicals like DDT? I'd been taught in journalism school, "If your mother says she loves you, check it out." I needed facts to justify a thinner wallet. Doubts, along with these questions, lingered in my mind each time I stood in the produce section:

n Was organic food really grounded in strong science or was it tethered by thin threads that could easily break when the next food fad came along?

n Are organically grown fruits and vegetables really better for my family?

n Did I fear being judged by coworkers, many of whom were single and didn't have a family to feed?

It takes a conventional farm three years to transition to organic; that's at least how long my conversion took. What changed my mind was a report by the Environmental Working Group (EWG), which was backed by the very independent Consumers Union (publisher of Consumer Reports). The list, called the dirty dozen, analyzed pesticide residue levels from the U.S. Department of Agriculture (USDA) government records. The no-nonsense list narrowed down the most common foods with the highest pesticide residues. Guess what? Potatoes were on the list. (I know, I should have listened to my dad.)

iPhotocopy and Clip

*Note: Winter lettuce isn't yet on the EWG list; however, preliminary EPA (Environmental Protection Agency) data show that perchlorate (rocket fuel) may be contaminating lettuce grown in southern Arizona and California, where 90% of the nation's lettuce is grown in the winter.

Finally, I had a manageable organic directory to work from. Instead of feeling guilty about not filling my cart with every organically available food and panicking that I was spending my kids' college funds, I now could use a workable list—one that fit my budget and relieved my doubts.

It's important to know that the residue levels on the dirty dozen are after these foods were washed and peeled for normal consumption. That said, I think (and hope) you can tell I'm not an alarmist. In general, the foods listed in the first two columns are higher in pesticide residues than others. However, to be fair and perfectly clear, the lists are not meant to imply the foods exceed EPA tolerable levels for male adults—it's the younger consumers who need more safeguards.

Very few foods ever exceed the EPA limits for adult males for three reasons. First, the agency must account for all pathways to exposure, such as diet, drinking water, and home use of insecticides, which means a piece of fruit is just one piece of the puzzle. It is the

EPA's job to determine the health risk of each approved pesticide and set restrictions called tolerances, which is the maximum amount a particular pesticide can be in or on a food. The tolerance is not about pesticide residues; it is an estimate for one's exposure to a particular pesticide or its breakdown product.

Second, the EPA similarly looks at cumulative exposure to groups of pesticides that may cause cancer and considers all the ways we might be exposed, such as inhalation or through the skin. Third, the agency adds a 100-fold safety buffer when it applies the standards for pesticide residues.

Every year the USDA tests for pesticide residues on more than 13,000 samples, purchased at grocery stores, of fruits, vegetables, grains, milk, and drinking water (USDA Pesticide Data Program). In 2004, 76% of fresh fruit and vegetables showed detectable residues, 40% of these contained more than one pesticide, and only .2% exceeded the EPA's tolerable levels.

The EWG examines this same data and narrows it down to forty-six commonly eaten fruits and vegetables. The EWG dirty-dozen list is based on what is called pesticide load, which quantifies how many pesticides were found on a single fruit or vegetable and within the entire commodity. For instance, 92% of the apple samples contained pesticides; of those, 27% contained two pesticides, 24% contained three pesticides, and 12% contained four different pesticides. For potatoes, 79% contained pesticide residues, 52% contained one residue, and 21% contained two types of residues (this is a big improvement since my potato-farming experiment in the early 1980s).

The EWG list is significant, especially for pregnant women, infants, and children, because it raises awareness flags for foods that are commonly eaten by children and by moms-to-be during pregnancy. Ask parents of growing children and they will attest that kids eat a lot, and it's often the same foods again and again. In the 1990s reports began to emerge showing that the tolerable levels for pesticide residues may have been too lenient for kids. What was easily legal and tolerable for an adult male may pose an unnecessary risk to a child or unborn baby.

The issue was twofold: Pesticide tolerance levels had not been adequately analyzed for infants and children. Nor had science delved deeply enough into how low levels of exposure to certain chemicals could affect development. The presumption was that infants' and children's rapid rates of development and constant changes in metabolism could make them more vulnerable than adults to toxins, especially at certain times of development.

The National Research Council (NRC) called these potentially damaging opportunities "windows of vulnerability when exposure to a toxicant can permanently alter the structure or function of an organ system." The NRC goes on to say in their report "Pesticides in the Diets of Infants and Children" that "children may be more sensitive or less sensitive than adults, depending on the pesticide to which they are exposed," adding

that there is no way to predict the infants' and/or children's sensitivity to these chemical compounds from data derived entirely from adults.

To right this anomaly, the Food Quality Protection Act (FQPA) became law in 1996. The law requires the EPA to identify safe pesticide levels for adults, children, and infants, as well as make regulatory decisions about new and widely used chemicals. The law required the EPA to add a tenfold safety buffer to the already-established 100-fold safety factor when setting pesticide standards.

The first stages of the act required phasing out organophosphate (OG) pesticides, known to cause neurological problems in children if exposure is too high. Half of all pesticides used in foods eaten often by children are organophosphates. The effects from acute exposure to OG pesticides such as paralysis, seizures, and tremors are well-known. However, there were, and still are, no large human studies showing just how low-dose exposure to these chemicals interferes with children's central nervous system development. Rather than employ a wait-and-see approach, the FQPA called for reform.

The most common sources of OG pesticides are fruits, vegetables, and grains. Since the FQPA evaluation began in 1993 the amount of OG applications on all foods declined by 44%. The latest comprehensive reports show about 19% of all fruits, vegetables, and grains have detectable levels of OG pesticides, which is down 10% from the highest levels in 1996.

It's a good start; however, OG pesticides are still commonly applied to nearly half of the foods most frequently eaten by kids—including apples,* apple juice, bananas, carrots, green beans, oranges, orange juice, peaches,* pears,* potatoes,* winter squash, and tomatoes (*=on the dirty-dozen list). For the last federally released progress report of the FQPA, Consumers Union gave the agency a C- because of an organophosphate called azinphos-methyl (AZM). Among USDA apple samples from 2002, 37% tested positive for AZM. Apple juice and applesauce were considerably lower in residues (.1% and .6%, respectively, which suggests that processing may reduce exposure).

During the summer of 2006, the EPA submitted a proposal in the Federal Registry to begin phasing out use of AZM following a lawsuit filed by the United Farm Workers. Contradictory guidelines regarding the potent chemical put the EPA in a quandary when in 1999 the agency said that the chemical posed no risk to consumers or farmworkers. However, by 2001 research confirmed that farmworkers should not reenter orchards for as long as 102 days after AZM application, even though EPA standards allotted for a mere two weeks. Farmers who cultivate almonds, Brussels sprouts, pistachios, and walnuts will begin the phaseout in 2007. By 2010, apples, crabapples, blueberries, cherries, parsley, and pears will require less toxic alternatives.

The good news is that you can make a dramatic change in your child's exposure to pesticides now in a very short period of time. When children eat organic, as compared to conventional, foods the risk from pesticide exposure drops to well below what the EPA considers a negligible hazard to health. And by making the switch, you cause the levels

and number of chemicals in the bloodstream to drop very quickly—within as little as seven days. The latest research shows that after one week of switching to organic foods, children’s blood levels of common farming chemicals drop to negligible levels.

Overall, the FQPA has remarkable potential to substantially reduce exposure to pesticides, especially since diet accounts for up to 80% of exposure (the remaining is from water and home-use chemicals). Some states have taken the issue very seriously and have dramatically reduced pesticide and insecticide use through programs called Integrated Pest Management (see more later). For instance, in 1978 more than 201,000kg of pesticides were applied to potatoes grown in New York. By 1998 that level had declined by 52%, capping out at a little more than 52,000kg.



Kimberly Lord Stewart is an award winning food writer and food news journalist. *Eating Between the Lines* was recently recommended by Jamie Oliver’s Food Revolution as a go-to source for understanding what is in your food and how to buy smarter and healthier. Stewart is working on her second book about learning the craft of farming from her father, a third generation farmer.

Learn more at www.eatingbetweentheelines.com and www.squidoo.com/jamie-olivers-food-revolution. Buy the book now on Amazon.com, www.amazon.com.

Copyright © 2007 by Kimberly Lord Stewart. All rights reserved.