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Forbidden-fruit frenzy

Public health fear mongers have set their sights on apples and spinach

By Trevor Butterworth Monday, June 20, 2011

Collectively, our diets are a disaster movie in slow motion: Evolution has wired us to eat as much sweet and fatty food as possible while expending as little energy as possible, and history has managed to deliver the best of all possible environments to encourage both.

The prognostications as to what all of this is going to do to our health (and the cost of health care) in the next 40 years are grim. The fatter we get, the more we will suffer cancer and heart attacks and the more we will have to spend to keep ourselves alive. And yet, what should we be worried about, according to the latest scare from the Environmental Working Group (EWG), an activist group? Apples, spinach, potatoes and blueberries.

The group issued a study that found that tiny traces of pesticide residue on one-third of 1 percent of fruit and vegetables sampled by the U.S. Department of Agriculture were above tolerance levels set by the Environmental Protection Agency (EPA), while 2.7 percent of residues (mostly on cilantro) were not from pesticides that were approved by the agency. (The tolerance level is the level of residue that is allowed to remain in or on a harvested crop. These levels are, according to the EPA, set “well below the point where these compounds might be harmful to consumers.”)

I happened to be at two different food safety conferences when this story broke, and the reaction among scientists and regulators was incredulity, despair and, in some cases, anger.

Here’s why. Virtually all the fruits and vegetables had residues well within the safety tolerances, and the fact that 0.3 percent weren’t didn’t mean that anyone was going to get cancer. There is still a huge margin of safety built into the tolerance levels. In the case of thiabendazole, the pesticide residue on apples, the EPA’s fact-sheet shows that the lowest dose given to rats that caused no adverse effects was 13,000 times greater than the potential exposure to humans.

More importantly, the risks from not eating the EWG’s “dirty dozen” list of fruits and vegetables are much greater than the risk from eating them. A recent study involving 300,000 people has shown that those who eat more fruits and vegetables are significantly less likely to die of the most common form of heart disease than those who eat fewer fruits and vegetables. Recent studies show a small reduction in cancer too. (Although, people who eat lots of fruit and vegetables tend to lead healthier lifestyles in general).

Finally, calling some fruits and vegetables “dirty” and others “clean” is a confusing and misleading health message for the public. The EWG fails to note that all plants produce their own pesticides to protect themselves from predators — and that 99.99 percent of the pesticides we end up consuming are naturally occurring. As Bruce Ames, professor of biochemistry and molecular biology at the University of California has tirelessly pointed out, when these chemicals are tested in the same way as synthetic pesticides, they turn out to be just as likely to cause cancer. Of course, this is only at levels of exposure that are impossible to replicate on your dinner plate.

So, if you look at the fruits and vegetables on the Environmental Working Group’s “clean” list, such as

cabbage, cantaloupe, mushrooms and pineapples, they turn out — surprise! — to contain naturally occurring carcinogens, but at levels that tend to be much higher than synthetic pesticides, according to Ames. Either trace amounts of possible carcinogens are risky in all fruits and vegetables, or they're not a risk at all. The idea that synthetic pesticides are bad and naturally occurring ones are good is an illusion.

This, of course, is not the first time that the Environmental Working Group has hyped up hypothetical risks at the expense of public health. Back in 2003, it warned about the cancer and health risks from PCBs in farmed salmon, which were then taken up by a major study that appeared to confirm the risk. But what were one's actual chances of getting cancer? Strangely, for a scare that shot around the world, activists, scientists and journalists seemed reluctant to quantify this new terror; but, using the EPA risk methodology, it turned out you had a 1 in 100,000 chance of cancer if you ate 8 ounces of raw salmon with the skin on every month for 70 years. Cook the fish, and the risk dropped by a third. Forgo the skin, and it disappeared into a number close to nothing. In other words, the risk was hypothetical to the point of being meaningless.

It wasn't until 2006 that researchers at Harvard School of Public Health announced that the cardiovascular benefits of eating salmon were greater than the cancer risks by a factor of at least 300:1. As Erich Rimm, a professor of epidemiology at Harvard, put it: "Unfortunately, the media and others may have contributed to this confusion by greatly exaggerating the unsubstantiated claim of a health risk from fish." The current apple scare shows that we never learn.