

Dishonest Propaganda Sprouts from Organic Agriculture

by Henry Miller, M.S., M.D.

In *The Wealth of Nations*, the 18th century economist and philosopher Adam Smith observed about the chicanery of some businessmen, “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.” Nowhere is that truer than in today’s organic agriculture and food industries, whose bamboozling of the public relies on chicanery and misrepresentations.

The most recent example is the article, “What the pesticides in our urine tell us about organic food,” by Kendra Klein and Anna Lappé, two well-known agents of the organic industry, in *The Guardian*. Their misleading half-truths and outright misstatements offer a teaching moment about “advocacy research” that is designed to obtain a preordained, spurious result that can then be used as propaganda to distort consumers’ choices in a free market.

First, the article is based on a recent published “study” (one of the coauthors of which is Klein) of four families (with a total of 16 participants) whose urine samples were measured for 12 days – six days on a conventional, non-organic diet, then six days eating organic -- to determine the levels of various pesticides. Leaving aside the minuscule sample size, the study measured only conventional, synthetic pesticides, but no “organic” ones, obviously intending to obtain results that would reinforce the myth that organic agriculture doesn’t use pesticides.

In fact, many organic-approved pesticides pose significant environmental and human health risks. They include highly toxic chlorine products such as sodium hypochlorite, calcium hypochlorite and chlorine dioxide; and copper sulfate, a widely-used broad-spectrum organic pesticide that persists in the soil and is the most common residue found in organic food. (The European Union determined that copper sulfate may cause cancer and intended to ban it, but backed off because organic farmers don’t have good alternatives.) It is noteworthy that modern synthetic pesticides are both safer and more effective; and some, such as neonicotinoids, can be used as seed coatings, avoiding the need for foliar spraying.

More than two dozen synthetic chemical pesticides are permitted in organic agriculture, and organic farmers are demanding more. The reason is revealing. Organic practices are so primitive and inferior that constantly-challenged organic farmers periodically must go whining to USDA’s National Organic Standards Board (whose members are from the organic industry), which rubber-stamps their requests for new chemicals to be approved.

Second, Klein and Lappé tout the results of the study thusly: After six days eating their regular non-organic diet, “Of the 14 chemicals tested, every single member of every family had detectable levels.” Then, “after switching to an organic diet for six days, these levels dropped dramatically. Levels across all pesticides dropped by more than half on average.”

Since they were measuring only non-organic pesticides, what else would one expect?

Third, Klein and Lappé claim, “When you choose organically-grown products, you’re guaranteed they were not grown with chlorpyrifos or the roughly 900 synthetic pesticides allowed in non-organic agriculture.” Not so fast. A USDA study of 571 fruit and vegetable samples bearing the organic seal found that 43 percent had detectable residues of prohibited pesticides. That is, there was cheating (*gasp!*) somewhere in the organic supply chain, in order to fraudulently command a higher price. In fact, as reported extensively by Peter Whoriskey in the *Washington Post*, cheating is rampant.

Fourth, pesticide residues are a red herring in any case, in light of a classic article by UC Berkeley biochemist Bruce Ames and his colleagues which reported that “99.99 percent (by weight) of the pesticides in the American diet are chemicals that plants produce to defend themselves.” In other words, the quibbling about organic versus non-organic pesticides applied by farmers ignores the 99.99 percent of the naturally occurring pesticidal substances we consume. This is a critical point, because the supposed absence of pesticides is a major selling point of the organic industry.

Fifth, another reason the entire study is an exercise in “so, what, science” is that a basic principle of toxicology is that “the dose makes the poison,” and no data are presented on whether the levels of pesticides detected are likely to be harmful in any way.

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Finally, Klein and Lappé end their article with this plaintive plea: “Organic for all, is that too radical of an ask?” Actually, it is if we want to feed the planet and protect our scarce natural resources: Because of organic agriculture’s inefficiency and low yields, it is wasteful of arable land and water.

How wasteful? Plant pathologist Steven Savage analyzed the data from the USDA’s 2014 Organic Survey, which reported various measures of productivity from most of the certified organic farms in the nation, and compared them to those at conventional farms. His findings were extraordinary. In 59 of the 68 crops surveyed, there was a yield gap, which means that, controlling for other variables, organic farms were producing less than conventional farms. Many of those shortfalls were large: for strawberries, organic farms produced 61 percent less than conventional farms; tangerines, 58 percent less; cotton, 45 percent less; rice, 39 percent less; and on and on.

As Dr. Savage observed: “To have raised all U.S. crops as organic in 2014 would have required farming of 109 million more acres of land. That is an area equivalent to all the parkland and wildland areas in the lower 48 states, or 1.8 times as much as all the urban land in the nation.” He concluded: “Since the supply of prime farmland is finite, and water is in short supply in places like California, resource-use-efficiency is an issue even at the current scale of organic (1.5 million cropland acres, 3.6 million including pasture and rangeland).”

Organic practices are to agriculture and the environment what cigarette smoking is to human health. And like the tobacco industry of a few decades ago, the defenders of the organic industry must lie and connive in order to paper over the dark side of its products. One way they do this is to enlist unsuspecting members of the House of Representatives into their war on modern agricultural practices and products. The most recent manifestation of that is the ironically misnamed Saving America’s Pollinators Act, a nearly six-year-old initiative now cosponsored by two Democrat representatives, Earl Blumenauer of Oregon and Jim McGovern of Massachusetts.

Reintroduced for the fifth time since 2013, the bill would usurp the Environmental Protection Agency's (EPA) regulatory responsibilities by withdrawing the registrations of eight pesticides—principally neonicotinoid insecticides—that are supposedly endangering bees.

Like so many other flawed pieces of legislation, it sounds simple and unobjectionable. What could be wrong with banning pesticides that are allegedly killing the insects that pollinate our flowers and keep our food supply varied, nutritious, and affordable? As it turns out, plenty.

Neonicotinoid pesticides (neonics, for short) are state-of-the-art crop protection products that anti-pesticide zealots have been campaigning to eliminate for the better part of a decade. Applied mostly as seed coatings, which obviates the need for foliar spraying, they are absorbed into crop plants and control crop-destroying pests.

They are safe for humans and animals, and the way they are used minimizes exposure to beneficial species such as bees and other pollinators. Small wonder, then, that they've become the world's most widely used class of insecticide—and a prime target of anti-pesticide campaigners, many of whom are agents of the organic agriculture and food industries. The irony is that if passed, the Saving America's Pollinators Act would actually be *detrimental* to bees and other pollinating species, while harming America's farmers.

Apart from removing crop protection tools on which farmers depend and that are vital to the survival of the U.S. citrus industry, among others, this bill establishes a Pollinator Protection Board, which would cede to environmental activists the ability to annually review and ban any other pesticide they deem harmful to pollinators, in effect, giving them a chokehold on most U.S. agricultural production that is not organic. There are other reasons that the bill is unwise, unnecessary, and unconscionable.

First, and most fundamental, there is no bee-pocalypse, insect-pocalypse, or pollinator crisis. Contrary to the claims of environmental activists, honey bee populations in North America and Europe have been steady or rising throughout the two decades that neonics have been on the market.

Honey bee populations have nearly doubled worldwide since 1961. The challenges honey bees face are principally attributable to three factors: parasites, like the tenacious varroa destructor mite; pathogens, such as the widely prevalent gut fungi *Nosema apis* and *Nosema ceranae*; and habitat loss. As described in the entomology literature^{1,2}, however, pesticides can exert a synergistic negative effect on bees in the presence of other stressors.

Second, the U.S. EPA has been reviewing neonic registrations for several years and has issued generally favorable preliminary ecological assessments for all of them. To date, while some added label restrictions and mitigation measures have been proposed, none of these re-assessments has found circumstances meriting a wholesale ban. The Saving America's Pollinators Act would usurp EPA's deliberate, scientific review process in favor of a ban based on nothing more than environmentalists' scare-mongering.

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Third, the current revival of this bill was obviously prompted by the European Union's recent total ban on outdoor uses of neonic pesticides. That decision was based on a rigged "Bee Guidance Document" (BGD) purposely crafted with field testing standards so strict that neonics would fail. It flew in the face of both the data on honey bee populations that debunked the "crisis" and the consistent evidence from large-scale field tests, which find no adverse effects on honey bees at the colony level from field-realistic exposures to neonics. (Because of its obvious flaws, the BGD was never accepted by the EU member states.)

Meanwhile, the leftist Canadian government seems headed in the same direction as the EU, but with a twist. Unable to demonstrate a neonic threat to bees after years of evaluation, its Pest Management Regulatory Agency (PMRA) has postulated a previously unheard-of threat to aquatic invertebrates from traces of neonics in freshwater sources.

To pull this rabbit out of its hat, the PMRA hypothesized a range of possible harms to aquatic invertebrates, using a standard more than 10 times more stringent than that of the U.S. EPA. This conjecture occurred in the absence of any actual demonstration of harm or even any population data on these species for comparison—all the while ignoring data from western Canada that contradicted its assumptions. Both the EU's ban and Canada's proposed phase-out are politically mandated but not scientifically supported—a terrible precedent for the United States to copy.

Fourth, the Blumenauer-McGovern bill would implicitly adopt the "precautionary principle" that underlies the EU's approach to environmental regulation, which can be summarized as: "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically." In practice, however, "look before you leap" becomes, "don't ever leap."

Since nothing can be proven *a priori* to be absolutely risk-free, the precautionary principle puts objectors forever in the driver's seat. Innovative product development would suffer, agricultural productivity would fall, and our global competitiveness would be compromised.

The precautionary approach is a major reason that despite enjoying some of the most favorable land and climate conditions in the world, the EU today is a net importer of food. Farmers there are having to do without state-of-the-art agricultural chemicals and genetically engineered crop plants, and their productivity is suffering.

Last but not least, non-organic American farmers – who embrace modern, efficient products and practices -- would be hurt by the legislation. The EU ban on neonics is devastating large swaths of agriculture, leaving crops such as oilseed rape and sugar beets vulnerable to plant pests. Ironically, it is also forcing farmers to rely on frequent, high-volume spray applications of older, harsher pesticides that are much more lethal to bees. Were it to be enacted, the Saving America's Pollinators Act would do the same in this country, all to address a nonexistent "bee-pocalypse."

Scientific and technological progress is the lifeblood of the American economy, and complete and truthful information about it is essential to the function of free markets. Therefore, science communication that counteracts inaccurate, self-serving spin is more essential than ever before, and it needs to be directed at legislators, regulators, and the public at large.

Endnotes

1. Claudia Dussaubat, Alban Maisonnasse, Didier Crauser, Sylvie Tchamitchian, Marc Bonnet, Marianne Cousin, André Kretzschmar, Jean-Luc Brunet & Yves Le Conte, “Combined neonicotinoid pesticide and parasite stress alter honeybee queens’ physiology and survival,” *Nature*, August 31, 2016.
2. Julia Grassi, Shannon Holt, Naomi Cremin, Marianne Peso, Dorothee Hahne, Boris Baer, “Synergistic effects of pathogen and pesticide exposure on honey bee (*Apis mellifera*) survival and immunity,” *Journal of Invertebrate Pathology*, November 2018.

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