

## The Omnivore's Dilemma: A natural history of four meals

Michael Pollan, *The Penguin Press, 2006 (450pp), \$26.95.* This book hits you in the stomach and the head, raising serious questions about our food choices and how they affect the environment, animals, health, energy consumption and global warming, farmworkers, and the future of the family farm. Choices: organic or chemical-intensive; organic from local farms, agribusiness, or imported; whole organic or processed organic with synthetics; wild fish or farmed, to name a few.

That deciding what we should eat raises anxiety is nothing new. Mr. Pollan, in writing this book, is hopefully facilitating a broad and urgently needed national dialogue on the environmental and health impacts of our food choices. The author recognizes that Wendell Berry began this discussion, saying, "Eating is an agricultural act." "It is an ecological act, and a political act, too," says Mr. Pollan.

For the most part, the vast majority of Americans are engaged in what the author calls "ignorant eating." While "the act of eating represents the most profound engagement of the natural world," Mr. Pollan says most of us, unwittingly, are actually engaged in "industrial eating" –eating food produced by a manipulation of nature that has dire consequences. Mr. Pollan constructs the dilemma of our food choices and fills the pages with historical and scientific facts, woven into a personal account in which he traces the path of his food (from corn to beef) and what exactly it went through to reach his dinner table. For example, Mr. Pollan actually tracked down a calf he had purchased in South Dakota to a Kansas feedlot.

During Mr. Pollan's food chain journey, we learn about key historical turning points in U.S. agriculture as part of a visit with an Iowa corn farmer. Corn, the basis of industrial food, feeds the steer, chicken, pig, turkey, lamb, catfish, tilapia and salmon, which are being reengineered to be able to perform this unnatural act. "The milk and cheese and yogurt, which once came from dairy that grazed on grass, now typically come from Holsteins that spend their working lives indoors tethered to machines, eating corn." Corn is in our sweeteners, such as high fructose corn syrup (HFCS). Corn, an efficient and productive plant, became even more productive when agriculture transitioned from natural fertilization ("sun-driven cycle of fertility in which the legumes, by fixing nitrogen, fed the corn which fed the livestock which in turn (with their manure) fed the corn") to fossil fuel intensive chemical (ammonium nitrate) fertilization. Using a World War II munitions technology based on nitrate, synthetically fixing nitrogen "allowed the food chain to turn from the logic of biology and embrace the logic of chemistry. Instead of eating exclusively from the sun, humanity now began to sip petroleum." Corn, with more fertilization

and pesticides, converts fossil fuel to food. Synthetic chemical fertilization's focus on nitrogen, phosphorus and potassium (N-P-K) ignores the importance of soil health, humus, soil organisms, water retention, and more.

In addition to chemical fertilization's high energy cost (estimates are 50 gallons of oil per acre), the ecological costs mount. Ammonium nitrate transforms to nitrous oxide, a greenhouse gas that contributes to global warming, and nitrate runoff pollutes waterways poisoning marine ecosystems and threatening biodiversity. Yet, U.S. farm policy supports the race for increased corn production to the benefit of Cargill and Coca Cola, not farmers.

There are some health benefits of grass fed animals: higher levels of Omega-3. And serious health problems associated with corn fed cows: E-coli resistance to human stomach acid. Other corn-related problems: HFCS is tied to obesity. Meanwhile, organically grown food is showing health benefits, such as better nutrition associated with higher levels of polyphenols.

The author critiques "industrial organic" agriculture and raises critical issues for the local and national dialogue regarding organic practices and labeling, including issues such as pasture and outdoor access for animals, grass-fed, and synthetic ingredients in processed foods labeled organic.

Consumers say trusting their source of food is critically important. Organic was originally conceived to be a transparent system based on disclosure (labeling), plans, inspections and certification. But, the author points out, the growing industrial organic sector is increasingly removed from the values that birthed the organic movement. For instance, some feel it is enough that organic reduces pesticides and synthetic fertilizers and don't worry about the other core values that attract organic consumers, such as natural and humane. Others say that the food system must be decentralized and offer consumers the opportunity to have a relationship with the earth and those who grow the food, through farmstands, consumer supported agriculture (CSAs), buying clubs, and cooperatives. The important thing, as the author points out, is that people understand the effect of their choices.

