Factory Farming Is Not the Only Way to Feed the World

Tom Philpott was a senior food writer at Grist, an environmental news and commentary website, until May 2011, after which he began writing for Mother Jones, a progressive magazine.

To "feed the world" by 2050, we'll need a massive, global ramp-up of industrial-scale, corporate-led agriculture. At least that's the conventional wisdom.

Even progressive journalists trumpet the idea. The public-radio show Marketplace reported it as fact last week [in May 2011], earning a knuckle rap from [food writer] Tom Laskawy. At least one major strain of President [Barack] Obama's (rather inconsistent) agricultural policy is predicated on it. And surely most agricultural scientists and development specialists toe that line ... right?

Well, not really. Back in 2009, Seed Magazine organized a forum predicated on the idea that a "scientific consensus," analogous to the one on climate change, had formed around the desirability of patent-protected genetically modified seeds. If I must say so, my own contribution to that discussion shredded that notion. If anything, a pro-GMO [genetically modified organisms] consensus has formed among a narrow group of microbiologists—the people who conduct gene manipulations to develop novel crops. But no such accord exists among scientists whose work takes them out of the laboratory and into farm fields and ecosystems: soil experts, ecologists, development specialists, etc.

Evidence Against Big Ag

The latest evidence against any consensus around Big Ag as world savior: In a paper just published in Science, a team of researchers led by the eminent Washington State University soil scientist John P. Reganold urges a fundamental rethinking of the U.S. ag-research system, which is "narrowly focused on productivity and efficiency" at the expense of public health and ecological resilience; and of the Farm Bill, which uses subsidies not to support a broad range of farmers but rather to "mask market, social, and environmental factors associated with conventional production systems."

The case for Big Ag had been way overblown.

The Reganold team's Science article distills their much longer report published last year by the prestigious National Research Council. While conventional wisdom holds that scientists who study agriculture think only lots of GMOs and agrichemicals can feed us going forward, Reganold's team has quite a different set of recommendations in mind: "organic farming, alternative livestock production (e.g., grass-fed), mixed crop and livestock systems, and perennial grains."

They are by no means the only high-level researchers to reach such conclusions. Earlier this year, the U.N.'s [United Nations] special rapporteur on food, Olivier De Schutter, conducted "an extensive review of the recent scientific literature" and concluded that the case for Big Ag had been way overblown. Defying agrichemical industry dogma about how organic agriculture produces low yields, De Schutter declared, "Small-scale farmers can double food production within 10 years in critical regions by using ecological methods."

Also this spring, another branch of the United Nations, the U.N. Environment Program, released yet another report making the case for organic and other low-input ag techniques.

And as far back as 2008, the largest-ever assessment of attitudes within the scientific community came out squarely against industrial agriculture as the true and only way to "feed the world" going forward. The International Assessment of Agricultural Knowledge, Science, and Technology for Development (IAASTD), a three-year study released in 2008, engaged 400 scientists from around the globe under the aegis of the World Bank and the U.N.'s Food and Agriculture Organization. Far from pinning hopes for humanity's future on the products of a few agrichemical firms, the IAASTD focuses on building resilience and health in communities through sustainable-ag techniques it groups under the rubric of the term "agroecology."

Now, I would never insist that there is a consensus among scientists that only organic ag can feed the world. There are clearly scientists, not all of them linked financially to the agrichemical industry, who would passionately argue against that proposition. But there is by no means a consensus in the other direction.

What we have is a debate—one being snuffed out by the illusion of a consensus. As global population grows and climate change proceeds apace, making agriculture ever more tricky, food policy may well emerge as the question of our time. It's time to air out that debate.
Factory Farming Is Essential to Feed the World

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More Meat Needed in the Future

Projections for population growth and a rise in per capita consumption of animal protein in developing countries mean that the world will be consuming two-thirds more animal protein in 2050 than it does today. The report estimates meat consumption will rise by 73% and dairy consumption by 58% over current levels.

The last forty-five years has seen a significant increase in world animal protein production. Since 1967 global production of poultry meat has increased by around 700%, eggs by 350%, pig meat by 250%, sheep and goat meat by 200%, beef and buffalo meat by 180% and milk by 180%. Livestock are increasingly important to the food security of millions of people.

To maintain these rates of growth for another four decades would require a further doubling of poultry numbers, 80% more sheep and goats, 50% more cattle and 40% more pigs.

The report points out that there are no technically or economically viable alternatives to large scale, intensive production for the bulk of the livestock-derived food required in the cities, where virtually all the population growth will occur.

Given limits on the availability of land, water, waste disposal and other resources, significant increases in productivity will be needed, requiring significant capital investment plus encouragement from policymakers and regulators.

The term factory farming is accurate. If a factory means efficient, large scale production, then that is what it is.

The definition of increased productivity is a higher ratio of outputs to inputs. In other words, more milk, meat and eggs must be produced using less than a corresponding increase in feed, labour and other components of production.

In practical terms that means larger numbers of animals managed by fewer people, using genetically superior livestock and modern technology to keep the animals healthy and productive. It is the exact opposite of the low-tech, small holdings that typified the last century, still prevalent in developing countries but increasingly restricted to hobby farms and luxury niche producers in Australia and other developed countries.

It is also the exact opposite of what those who use the term factory farming to describe modern livestock production would like to see.

Factory Farms Are Necessary and Humane

By some measures the term factory farming is accurate. If a factory means efficient, large scale production, then that is what it is. The largest farms house millions of chickens or hundreds of thousands of pigs or cattle. The capital value of the livestock and facilities is counted in tens of millions of dollars.

Obviously there is no place for naming each animal or treating them as pets. Trucks deliver tonnes of feed on a daily basis, which is served up to the animals by conveyor. Animals are mass vaccinated and medicated using multi injectors, water medication, aerosols or in-feed treatments.

But those who use the term intend it to be derogatory. They either believe that intensive, large-scale production is inherently cruel or that eating animals is fundamentally wrong. Either way, they advocate a return to the small-scale farming of half a century ago.
They claim chickens are unbearably crammed together in a soup of ammonia and faeces, unable to engage in natural behaviours, forced to grow at unnatural rates, crammed with antibiotics and slaughtered under inhumane conditions. Turkeys are said to endure painful beak trimming, overcrowding and the effects of excessive growth rates. Egg laying chickens are said to suffer unspeakably in cages.

On pig production they claim sows reproduce in inhumane conditions and, along with their piglets, are forced to live on concrete and suffer painful procedures. By implication it is assumed that chickens, turkeys and pigs feel the same about these things as if they were humans.

Like all effective propaganda, such criticisms of factory farming are close enough to the truth to appear believable. By using selective examples and representing exceptions as representative, with frequent and eloquent repetition, they are regularly accepted as facts. Politicians and policy makers, often with no better information of their own, are tempted to regulate in the belief that there is a problem requiring a solution. Such "solutions" have the potential to deny food security to millions of people.

**There Is No Problem**

In fact there is no problem. Livestock farmers do not make money unless they take proper care of their animals. In many ways factory farming is more humane than the small scale farming of old.

If the animals were suffering from the unspeakable cruelties so often attributed to factory farming, they would be dying like flies.

Chickens receive a perfectly balanced diet to which they have constant access. They also have plentiful water, are protected from wind, rain, heat and cold, and are safe from foxes, snakes and insects. To the extent that technology allows, everything is done to ensure they lead a stress and disease-free life. Indeed, the avoidance of stress and disease is the top priority.

The ammonia emitted by chicken faeces is no problem unless the chickens are sick, which is rarely the case. Antibiotics are expensive and thus used sparingly. Growth defects only occur if the diet is unbalanced. Beaks may be trimmed to prevent pecking of other birds but does not inhibit eating or growth. Stocking densities cannot be too high or they would inhibit growth rates and cause other problems.

Fairly obviously, if the animals were suffering from the unspeakable cruelties so often attributed to factory farming, they would be dying like flies rather than contentedly eating and growing or producing eggs.

As for pigs, reproductive efficiency and growth rates have soared in recent decades, obvious evidence that their housing and management are of more concern to the critics than the pigs. An important contributor has been housing that prevents the sows from crushing tiny piglets.

Indeed, reproduction is one of the first things to decline when animals are suffering. The fact that pigs reproduce so prolifically and chickens lay eggs so plentifully gives the lie to the claims of the factory farming critics.

However romantic it may appear to middle class urban consumers in developed countries for chickens to be scratching around in the dust or pigs to be wallowing in the mud, this is not conducive to efficient production. Some will be willing to pay for the privilege of having their meat or eggs produced under such conditions, and no doubt some farmers will be happy to supply them.

But this is not an option for most of the world, and neither should it be imposed. Millions of people want to enjoy more meat, eggs and dairy products in their diet, including many now emerging from poverty. Whether they are permitted to enjoy them may depend on how much the policy makers and politicians are influenced by those who regard factory farming as a problem.
Number of Dairy Cows on U.S. Factory Farms

Source: Food & Water Watch analysis of USDA data

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<th>Top Dairy Counties</th>
<th>Dairy Cows on Factory Farms</th>
<th>Human Population Sewage Equivalent (millions)</th>
<th>Comparable Metropolitan Area</th>
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