

# Rachel's Environment & Health News

## #434 - The Pesticide Opportunity

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Worldwide, food production has gone through three stages, and last year it entered a fourth. Since the emergence of our species, HOMO SAPIENS, roughly 100,000 years ago,[1] humans have hunted and gathered what nature produced. A handful of human communities still live this way today. About 10,000 years ago, people began to plant seeds and cultivate crops on a local scale. Most of the world is still at this stage. (Throughout the world, there are 3.1 billion people, out of 5.4 billion, or 57%, still living in the countryside.[2]) About 150 years ago, in some parts of the world, farmers began to use large machines (for example, the McCormick reaper, invented in 1831). During the past 50 years the industrial trend accelerated with the introduction of chemical technology (fertilizers, pesticides, and growth regulators).

A key idea underlying all industrial agriculture is the mind-set that says, "The best measure of success in farming is crop-yield per agricultural worker." [3] By this narrow measure, industrial agriculture has been a success.

During the past 40 years, industrial/chemical agriculture has become known as the Green Revolution; industrial corporations and government agencies (e.g., the World Bank) have made major efforts to promote the Green Revolution world-wide. Despite such efforts, the Green Revolution has met with only limited success (discussed below). Nevertheless, chemical corporations are now trying to move the world into a fourth stage of agriculture, which maintains the industrial mind-set as it adds yet-another major technology: genetic engineering.

The introduction of rBGH (recombinant bovine growth hormone) into the American milk supply last year (see REHW #381-#384) was the chemical industry's opening shot in a campaign to shift the world's farmers to genetic engineering. Some major corporations, such as Monsanto of St. Louis, have committed their entire future to convincing farmers to adopt genetic engineering. It was Monsanto who introduced the synthetic hormone rBGH into our milk last year and who is now promoting genetically-engineered crops that are resistant to chemical herbicides. The theory is that these genetically-engineered crops will be able to survive heavy application of herbicides aimed at killing non-crop species (weeds). Monsanto hopes to sell to farmers, worldwide, both the genetically-engineered crop strains AND the herbicides, in hopes that farmers will grow dependent upon such technologies and upon the corporations that sell them.

However, even as industrial corporations tinker with the genetic structure of crops and animals, there are countercurrents developing.

During the past 15 years, people have begun to ask whether humanity took a wrong turn when we applied the industrial mind-set to agriculture. For example, Indian physicist Vandana Shiva says, "For more than 40 centuries Third World peasants, often predominantly women, have innovated in agriculture. Crops have crossed continents, crop varieties have been improved, patterns of rotational and mixed cropping have been evolved to match the needs of the crop community and the ecosystem. These decentred [decentralized] innovations have been lasting and sustainable. They stayed because they struck an ecological balance. Peasants as experts, as plant breeders, as soil scientists, as water managers, have kept the world fed all these centuries." Dr. Shiva goes on, "The worldwide destruction of the feminine knowledge of agriculture, evolved over four to five thousand years, by a handful of white male scientists in less than two decades has not merely violated women as experts; since their expertise in agriculture has been related to modelling agriculture on nature's methods of renewability, its destruction has gone hand in hand with the ecological destruction of nature's processes and the economic destruction of the poorer people in rural areas." [4]

A different, though related, criticism of the Green Revolution comes from Rutgers University biology professor David Ehrenfeld: "The chemicals that are an inseparable part of the system are highly toxic to farmers and their environments. It erodes and wastes the soil even

as it poisons it. It depletes scarce water resources. It allows, even promotes, the extinction of countless precious varieties of crops, the irreplaceable genetic heritage of millennia of farming. And all these consequences, acting together, have destroyed farm culture and farm communities and have forced millions of knowledgeable farmers to abandon farming and leave their land, in the rich and poor nations alike." [5]

This last idea may be the most fundamental criticism of industrial agriculture: that it destroys the fabric of both rural AND urban societies.

In his eye-opening book, THE TRAP (a runaway best-seller in France and England, but so far largely ignored in the U.S.), Sir James Goldsmith, a member of the European Parliament, writes,

"When people leave the land, they gravitate to the cities in search of work. But throughout the world there are not enough urban jobs and the infrastructure --such as lodgings, schools, hospitals, etc. --is already insufficient. The result is increased unemployment, with the attendant costs of welfare, as well as a need for substantial expenditure on infrastructure. These are the indirect costs of intensive [industrial] agriculture and they must be taken into account.

"There is also a deeper price.... loss of rural employment and migration from the countryside to the cities causes a fundamental and irreversible shift. It has contributed throughout the world to the destabilization of rural society and to the growth of vast urban concentrations. In the urban slums congregate uprooted individuals whose families have been splintered, whose cultural traditions have been extinguished and who have been reduced to dependence on welfare from the state. They form an alienated underclass. From the first world to the third, these huge shantytowns have become tragic, moribund intumescences. The cost of such social breakdown can never be measured. The damage is too fundamental. Throughout the world social breakdown in the mega-cities threatens the existence of free societies." [6]

Think of the U.S., where the House of Representatives recently voted to weaken Fourth Amendment guarantees against illegal search-and-seizure; and voted to curb prisoners' ancient right of HABEAS CORPUS; and voted to spend another \$10.5 billion building new penitentiaries [7] at a time when the U.S. already has more than one million of its citizens incarcerated; [8] and voted to spend yet another \$10.5 billion in "block grants" that local authorities can use as they see fit to "fight crime." Even as the Congress is restricting liberty and spending vast sums to "fight crime" no one believes that even these extreme measures will do much good: the "crime problem" is expected to worsen steadily because industrial farming has destroyed communities and families, the mainstays of civilized life.

But, you ask, didn't "the market" drive the family farmer out of business because of "economies of scale" enjoyed by industrial agriculture? No. As World Bank economist Herman Daly has shown, "...on closer examination, it turns out that it is government policy that has given the advantage to the larger farmers. Study after study has shown that small family operations are in fact more productive per acre. Though cash income may be small, they can support a family. It is when they are drawn into increasing their size or into excessive borrowing for 'modernization' that they are sucked into the downward currents that lead to bankruptcy."

Daly continues: "The only measure by which the large farms are better is that of productivity of labor... if productivity is measured in other ways, such as production per acre or per unit of energy or amount of capital input, it is the small farm that always excels. It is federal policy that has destroyed family farms in so much of the country, not any inherent weakness in the family farm system. The cessation of federal interference is the first requirement for the recovery of healthy rural life." [9]

In the U.S., the public is not well-informed about government programs that have destroyed rural communities and farm families. But there is one aspect of industrial agriculture that the public "gets." The public is deeply disturbed about industrial poisons in the food supply, namely pesticides. According to a survey conducted by the federal Food and Drug Administration (FDA) in 1989, fully 97% of the public is genuinely concerned about pesticides contaminating their food. At the same time, the public is losing faith in the ability of government to regulate pesticides safely. Thirty years ago, in 1965, 98% of Americans expressed confidence that government could regulate pesticides safely; in 1987, the number expressing such confidence had dropped to 46%.[10] A majority of Americans no longer believe that the government can protect our food supply from the whims of the industrial corporations that now dominate farming. But, in a sense, this is GOOD news.

A concerned public is an essential part of any reform effort, and often the hardest part to develop. The pesticide issue ALREADY HAS THE PUBLIC'S ATTENTION. The scene is set for organized citizens to develop the case for major reform of federal farm policies, for curbing the appetites of the agrichemical corporations, to revitalize rural life and culture, to offer people a way out of the prison that urban life has become for so many. Of course, neither the present Republican Congress nor the Democratic Congresses before it, would consider such people-oriented, common-sense solutions. As always, our first step must be to get private money out of our elections, so more serious, thoughtful people can afford to run for Congress. Nevertheless, the ground is fertile now, and it is a good time for us all to be sowing the seeds of change.

--Peter Montague

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[1] Human physical and cultural history is described authoritatively in Bernard G. Campbell, HUMAN KIND EMERGING 6th edition (New York: HarperCollins, 1992).

[2] The 3.1 billion figure from: Sir James Goldsmith, THE TRAP (New York: Carroll & Graf, 1994), pg. 106. The 5.4 billion figure from: "94 Almanac" in "Microsoft Bookshelf '94" CD-ROM (Bellevue, Wash.: Microsoft, 1994).

[3] The attitudes that underpin industrial agriculture have been described well in Kenneth A. Dahlberg, "Government Policies That Encourage Pesticide Use in the United States," in David Pimentel and Hugh Lehman, editors, THE PESTICIDE QUESTION; ENVIRONMENT, ECONOMICS, AND ETHICS (New York: Chapman and Hall, 1993), pgs. 281-306. See also the books by Shiva and Ehrenfeld, cited below, and Goldsmith, cited above.

[4] Vandana Shiva, STAYING ALIVE; WOMEN, ECOLOGY AND DEVELOPMENT (London: Zed Books, 1989), pgs. 98, 105.

[5] David Ehrenfeld, BEGINNING AGAIN; PEOPLE AND NATURE IN THE NEW MILLENNIUM (NY: Oxford University Press, 1993), pgs. 164-165.

[6] Sir James Goldsmith, cited above, pgs. 103-104.

[7] FACTS ON FILE Vol. 55, No. 2831 (March 2, 1995), pgs. 148-149.

[8] Paul J. McNulty, "Rule of Law: Who's in Jail, and Why They Belong There," WALL STREET JOURNAL Nov. 9, 1994, pg. A23.

[9] Herman E. Daly and John B. Cobb, Jr., FOR THE COMMON GOOD. Second edition. (Boston: Beacon Press, 1994), pgs.

271-272.

[10] Both opinion surveys (FDA and trust-in-government) are cited in David Pimentel and others, "Assessment of Environmental and Economic Impacts of Pesticide Use," in David Pimentel and Hugh Lehman, editors, THE PESTICIDE QUESTION; ENVIRONMENT, ECONOMICS, AND ETHICS (New York: Chapman and Hall, 1993), pg. 71.

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