Anti-technology Rhetoric Won't Feed World

By ACSH Staff — April 22, 2002

The arrival of Earth Day brought a discussion of how to feed the poor. Feeding the hungry has been added to the Earth Day agenda, but the anti-technology rhetoric of past Earth Days, when the poor were forgotten, cannot easily be reconciled with this newly discovered concern.

Since the first Earth Day, the planet has added close to 2 billion people, bringing the population to 6 billion, and those people are longer-lived, better fed, and in better health than ever before. With the population expected to grow by another 3 billion in the next half century (before leveling off or even declining), we should take a look at some of the changes of the past two centuries for guidance in combining environmental and anti-starvation goals.

In 1800, the world's population had not yet reached 1 billion; by 1900, the population was about 1.7 billion. Bringing new lands under cultivation helped boost the population, but equally important were (a) discoveries in organic chemistry that showed that crops could be fertilized with inorganic minerals and (b) the beginning of mechanization, including the use of refrigerated railroad cars and steam ships for moving beef and mutton to more densely populated areas. Since 1900, world population has increased more than three and a half times, while the population of the United States has quadrupled, yet we are producing vastly greater quantities of food on less land than we were cultivating in 1910. World population has more than doubled since 1960, yet per capita caloric consumption has gone up even faster. Daily per capita caloric intake in developing countries has increased from about 1,900 calories per day in 1960 to about 2,700 today. All this has been achieved even though the land under cultivation in the world has only increased from 1.4 billion hectares in 1960 to 1.5 billion hectares today. The percentage (as opposed to raw numbers) of the world population in hunger and poverty has fallen from 50% in 1950 to 30% in 1970 to (a still-unacceptable but much improved) 19% today.

One author, Vaclav Smil, has called the Haber-Bosch synthesis of nitrogen fertilizer the greatest invention of the twentieth century. We simply could not have fed even half the world's current population without it. Clearly, the increases in yield from the "Green Revolution" technologies were necessary to feed the Earth's growing population. Can one imagine the ecological devastation that would have resulted without yield increases if the world's population had to be fed by bringing forest and wildlife preserves, plus scrub, mountainsides, and other marginal lands under cultivation? The forecasts of mass famine made in the 1960s and since including ones made by Earth Day organizers would have come true if not for yield increases brought about by precisely the modern agronomy that Earth Day organizers have consistently opposed.

Early in the twentieth century, long before the introduction of modern chemical pesticides, the originators of "organic" agriculture were opposed to the use of minerals and synthetic fertilizers (as opposed to manure) in crop production. Back then, pesticides in use included various arsenic,
copper, and sulfur compounds, many of which are still approved for use in "organic" agriculture. It has become an article of faith among many environmentalists and academic postmodernists that the "Green Revolution" was a "failure," though they offer no explanation of how we would feed today's world population without it.

The anti-technology rhetoric continues, with people who have been spectacularly wrong in the past now rising up in opposition to biotechnology in agriculture. Their vehemence has even led to various forms of ecoterrorism against genetically-modified or transgenic crops. Unfortunately, most of the opponents of transgenic crops are without any knowledge or experience in agriculture and therefore cannot offer any realistic plan for increasing food production while protecting the environment.

Of all the causes in which I have been involved, no other issue has seen such a clear example of scientists and others with knowledge and experience lining up on one side of the issue while their opponents somehow garner the vast majority of publicity. The opponents of science are needlessly frightening people about technology that has been deemed by the National Academy of Sciences and others to be the safest, most predictable form of plant breeding yet devised.

Those who have done nothing to help feed people and have opposed everything that does help feed people have become ever more strident in their opposition to the technologies we need to build a better future. If activists who destroy agricultural fields or burn down research laboratories have a better way than transgenics for keeping protected lands out of cultivation while increasing agricultural yields, please let those of us involved in agriculture in developing countries know. Also, let us know if there is a better way of providing more food for those in hunger and those still to come. We are waiting!