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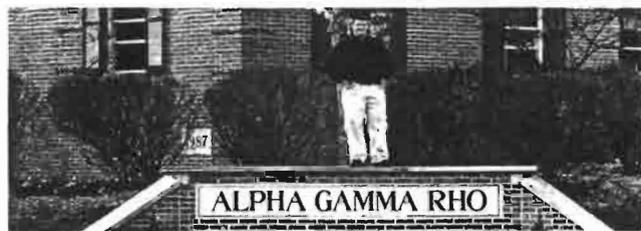
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Let's base decisions about biotechnology on science, not fear

By Norman E. Borlaug



Borlaug

In 2000, I served on a joint U.S.-European Union Biotechnology Consultative Forum to look at the full range of issues that have polarized thinking about biotechnology, especially in food and agriculture, on both sides of the Atlantic.

While significant differences of opinion existed, most of the U.S. and European experts on the panel agreed that agricultural biotechnology holds great promise to make dramatic and useful advances during the 21st century. The most prestigious national academics of science in North America and Europe have come out in support of genetic engineering to improve the quantity, quality and availability of food supplies.

Unfortunately, the debate about the safety and utility of genetically modified (GM) crops continues to grow and now looks to be heating up further. The U.S. is considering filing a challenge at the World Trade Organization to break the European Union's four-year moratorium on importing GM crops. Although the European Commission agrees that the ban needs to be lifted, various member states refuse to do so until more stringent GM labeling regulations are put in place.

There have always been those in society who resist change. However, the intensity of the attacks against GM crops is unprecedented, given the potential environmental benefits that such technology can bring by reducing the use of pesticides. Genetic engineering of crops is not some kind of witchcraft, but rather the progressive harnessing of the forces of nature to the benefit of feeding the human race. The idea that a new technology should be barred until

proven conclusively that it can do no harm is unrealistic. Scientific advance always involves some risk of unintended outcomes.

Zambian President Levy Mwanawasa says he's been told by anti-biotechnology groups that donated American corn is "poison" because it contains genetically modified kernels. Based on such misinformation, he is willing to risk thousands of additional starvation deaths rather than distribute the same corn Americans have been eating for years with no ill effects.

Some other African leaders whose people also are facing hunger and starvation say they're afraid to accept genetically modified corn because its pollen will "contaminate" local corn varieties with dire environmental consequences.

If low-income, food-deficit nations—which desperately need access to the benefits of science and technology—are being advised by governments and pressure groups in privileged nations to reject biotechnology, there is reason for serious concern.

Current GM crop varieties that help to control insects and weeds are lowering production costs and increasing harvests—a great potential benefit to all Third World farmers. Future GM products are likely to carry traits that will improve nutrition and health. All of these technologies have more benefits to offer poor farmers and consumers than rich ones.

For example, Kenya is ready to field-test virus-resistant sweet potatoes that should yield 30-50 percent more of this important food

staple. Virus-resistant bananas and potatoes have already been bred, but are being barred in African countries where people urgently need their higher yields. Indian researchers are developing a vaccine against the epidemic livestock disease, rinderpest, which can be genetically engineered into peanut plants. African farmers would be able to protect their draft animals simply by feeding them the peanut plants.

The needless confrontation of consumers against the use of transgenic crop technology might have been avoided had more people received a better education in biological science. This educational gap, which results in ignorance about the challenges and complexities of agricultural and food systems, needs to be addressed without delay. Privileged societies have the luxury of adopting a low-risk position on the GM crops issue, even if this action later turns out to be unnecessary. But the vast majority of humankind does not have such a luxury, and certainly not the hungry victims of wars, natural disasters and economic crises.

Without adequate food supplies at affordable prices, we cannot expect to make progress in world health, prosperity and peace. Responsible biotechnology is not the enemy; starvation is.

Adapted from an editorial that appeared in the Wall Street Journal, "Science Vs. Hysteria," Jan. 22, 2003.

Editor's note: Norman E. Borlaug, Nobel Peace Prize-winner and father of the Green Revolution, spoke to students, faculty and alumni during a three-day visit to Purdue in February.