

Farmers Can Feed the World

Better seeds and fertilizers, not romantic myths, will let them do it.

By [NORMAN E. BORLAUG](#)

Earlier this month in L'Aquila, Italy, a small town recently devastated by an earthquake, leaders of the G-8 countries pledged \$20 billion over three years for farm-investment aid that will help resource-poor farmers get access to tools like better seed and fertilizer and help poor nations feed themselves. For those of us who have spent our lives working in agriculture, focusing on growing food versus giving it away is a giant step forward.

Given the right tools, farmers have shown an uncanny ability to feed themselves and others, and to ignite the economic engine that will reverse the cycle of chronic poverty. And the escape from poverty offers a chance for greater political stability in their countries as well.

But just as the ground shifted beneath the Italian community of L'Aquila, so too has the political landscape heaved in other parts of the world, casting unfounded doubts on agricultural tools for farmers made through modern science, such as biotech corn in parts of Europe. Even here at home, some elements of popular culture romanticize older, inefficient production methods and shun fertilizers and pesticides, arguing that the U.S. should revert to producing only local organic food. People should be able to purchase organic food if they have the will and financial means to do so, but not at the expense of the world's hungry—25,000 of whom die each day from malnutrition.

Unfortunately, these distractions keep us from the main goal. Consider that current agricultural productivity took 10,000 years to attain the production of roughly six billion gross tons of food per year. Today, nearly seven billion people consume that stockpile almost in its entirety every year. Factor in growing prosperity and nearly three billion new mouths by 2050, and you quickly see how the crudest calculations suggest that within the next four decades the world's farmers will have to double production.

They most likely will need to accomplish this feat on a shrinking land base and in the face of environmental demands caused by climate change. Indeed, this month Oxfam released a study concluding that the multiple effects of climate change might “reverse 50 years of work to end poverty” resulting in “the defining human tragedy of this century.”

At this time of critical need, the epicenter of our collective work should focus on driving continued investments from both the public and private sectors in efficient agriculture production technologies. Investments like those announced by the G-8 leaders will most likely help to place current tools—like fertilizer and hybrid seeds that have been used for decades in the developed world—into the hands of small-holder farmers in remote places like Africa with the potential for noted and measured impact.

That investment will not continue to motivate new and novel discoveries, like drought-tolerant, insect-resistant or higher-yielding seed varieties that advance even faster. To accomplish this, governments must make their decisions about access to new technologies, such as the development of genetically modified organisms—on the basis of science, and not to further political agendas. Open markets will stimulate continued investment, innovation and new developments from public research institutions, private companies and novel public/private partnerships.

We already can see the ongoing value of these investments simply by acknowledging the double-digit productivity gains made in corn and soybeans in much of the developed world. In the U.S., corn productivity has grown more than 40% and soybeans by nearly 30% from 1987 to 2007, while wheat has lagged behind, increasing by only 19% during the same period. Lack of significant investment in rice and wheat, two of the most important staple crops needed to feed our growing world, is unfortunate and short-sighted. It has kept productivity in these two staple crops at relatively the same levels seen at the end of the 1960s and the close of the Green Revolution, which helped turn Mexico and India from starving net grain importers to exporters.

Here, too, the ground seems to be slowly shifting in the right direction, as recent private investments in wheat and public/private partnerships in maize for Africa re-enter the marketplace. These investments and collaborations are critical in our quest to realize much needed productivity gains in rice and wheat to benefit farmers around the world—and, ultimately, those of us who rely on them to produce our daily food.

Of history, one thing is certain: Civilization as we know it could not have evolved, nor can it survive, without an adequate food supply. Likewise, the civilization that our children, grandchildren and future generations come to know will not evolve without accelerating the pace of investment and innovation in agriculture production.

Mr. Borlaug, a professor at Texas A&M University, won the 1970 Nobel Peace Prize for his contributions to the world food supply.

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