THE WALL STREET JOURNAL.
WSJ.com

OPINION EUROPE | Updated October 17, 2012, 10:00 p.m. ET

Embracing the Promise of GMOs

The campaign against biotechnology is based on misinformation and fear.

By ALEX B. BEREZOW

Recently, scientists in New Zealand welcomed the newest genetically modified organism (GMO) into the world: A cute, tailless cow named "Daisy" that produces low-allergy milk. Scientists engineered the animal to address the problem of infant allergies to cow milk, which affects up to 3% of children in the developed world.

But Daisy is only the latest example of the tremendous benefits of biotechnology. Last month, scientists reported in the American Journal of Clinical Nutrition that so-called "Golden Rice"—a strain of rice genetically modified to produce more beta-carotene—is more effective than spinach as a source of vitamin A. The World Health Organization estimates that 250,000-500,000 children go blind due to vitamin A deficiency annually, and half of them die within 12 months. Providing them with Golden Rice could help prevent this tragedy.

In Africa, millions of people rely on bananas for food or as a source of income. However, a bacterium called Xanthomonas causes a disease known as BXW (banana Xanthomonas wilt) that devastates the crop. To prevent this, scientists engineered bananas with a gene from sweet pepper that provides resistance to BXW. The technology shows such promise and the threat posed by BXW is so great that last year, Uganda waived its ban on GMOs so scientists could conduct field trials in the country.

While developing countries likely have the most to gain from adopting GMOs, the developed world also has reaped benefits. Genetic modification saved Hawaii's papaya industry from the papaya ringspot virus. Yields on cotton crops in the West have also increased, while the use of environmentally damaging insecticides has decreased. "Arctic Apples," which do not turn an unappetizing brown color after they are sliced, are another recent invention.

Scientists are even devising crops to deal with global challenges such as climate change. For example, researchers are developing drought-resistant corn, and other scientists have proposed engineering plants to

Getty Images

become more proficient at sequestering the greenhouse gas carbon dioxide. Still other groups are working on malaria-resistant mosquitoes, bacteria that produce biofuel and plants that synthesize edible vaccines.

Truly, the innovations of biotechnology appear to be limited only by our imagination. Yet incredibly strong opposition exists to this revolutionary technology. Anti-biotechnology groups such as Greenpeace frequently mislead the public about GMOs by downplaying the known benefits while overhyping small, theoretical risks. The result is that biotechnology is being held back by a scaremongering group of environmentalists who seem to think that saving the planet requires banning science and thwarting human progress.

In November, California will vote on Proposition 37, a referendum that would require food labels for GMOs. The Yes campaign is based on misinformation and fear. Proponents claim that we "have a right to know what's in our food." But this seemingly sensible claim is misleading. Humans have been genetically modifying food for millennia via the process of artificial selection. Biotechnology simply opens new opportunities and allows the modification process to occur quickly and far more accurately.

The fear of "foreign" genes being inserted into GMOs is also misplaced. Crops are grown in soil, which contains millions of species of bacteria. Thus our food—including organic food—is covered with bacteria. Yet nobody thinks twice about this foreign DNA that we regularly consume on a daily basis.

Indeed, the American Medical Association recently declared that "there is no scientific justification for special labeling of bioengineered foods." Similarly, a whole host of organizations recognize the benefits of GMOs, ranging from the National Academy of Sciences and the World Health Organization to the USDA and FDA.

There's a reason that the world's best scientists, medical doctors and government bureaucrats embrace GMOs: They understand the technology and its potential for revolutionary change. For a world that will hit nine billion people by 2050, we need every tool in the arsenal to keep improving agricultural output and bring the developing world out of poverty.

The world must embrace GMOs. It is not only pro-science. It is pro-humanity.

Mr. Berezow is the editor of RealClearScience. He holds a Ph.D. in microbiology and is co-author of "Science Left Behind" (Public Affairs, 2012), which can be found at http://www.amazon.com/dp/1610391640. Follow him on Twitter @AlexBerezow.