

BOOK REVIEW

Frankenfoods revisited.

BY MARK WILLIAMS

NEXT TIME you hear the lines in "America the Beautiful" about "amber waves of grain," you might ponder the extent to which, increasingly, those crops are genetically engineered. Since the U.S. government authorized commercial plantings of genetically modified (GM) seed, almost a quarter of all U.S. corn has become transgenic. Daniel Charles's *Lords of the Harvest: Biotech, Big Money, and the Future of Food* is the first account that essentially gets right the story of how we got here, while confronting the irony of the "frankenfoods" controversy.

On one hand, the claims of GM-crop proponents hardly resemble reality, according to Mr. Charles. Genetic engineering's agricultural uses thus far have been to create crops resistant to insect pests or weed-controlling herbicides. Insect resistance has been achieved by inserting into plants the gene codes for proteins that insects find toxic; herbicide resistance results from introducing genes from specific bacteria and unrelated plants. Useful traits, but as Mr. Charles notes, after spending billions on research and acquisitions, Monsanto—the GM-plant world's would-be Microsoft—has achieved annual revenue of only a few hundred million dollars. The great mass of the developing world's poorest farmers, the author points out, are unlikely to spend enough on GM seeds to become a commercially viable market.

On the other hand, he says, the claims made by GM-crop opponents are just as bogus. Ecological risks like "superweeds"

LORDS OF THE HARVEST: BIOTECH, BIG MONEY, AND THE FUTURE OF FOOD

By Daniel Charles

368 pages, Perseus Publishing, \$26

are often cited: purportedly, pollen dust from transgenic crops could produce virulent hybrids that would overrun everything. But genes aren't germs. If a GM plant and a wild relative interbred, the re-

sult would be ill-equipped to survive without farmers' ministrations. As for human consumption of GM foods, Mr. Charles notes that whenever scientists say they've found no evidence of danger, opponents respond that all that's been established is science's inability to identify hidden risks. By such reasoning, conventional agriculture couldn't be deemed safe.

But of course, the anti-GM outcry—strongest in Europe—has ultimately been about something else. GM crops are simply the most visible edge of capital-intensive industrial agriculture, which is destroying nostalgic cultural self-images based on the countryside throughout the developed world. For example, the United Kingdom had 454,000 farms in 1950; now it has half that number. In the last five years, the net income from an average British family farm has plunged by 90 percent. And Americans shouldn't be too smugly dismissive. For "America the Beautiful" now also represents nostalgia for a vanishing pastoral lifestyle. ■



Contributing editor MARK WILLIAMS lives in Oakland, California. Write to letters@redherring.com.