



The Second **Green Revolution**

BY FREDERICK KAUFMAN
PHOTOGRAPHS BY
JOHN B. CARNETT

A century of agricultural innovation has vastly increased the amount of food on Earth—and with it, the total population. But the first green revolution is proving unsustainable, and hunger is on the rise. Now keeping the world fed will require an unlikely alliance between genetic engineers and organic farmers

AMONG THE TREE-LINED BIKE PATHS, automated livestock pens and darkened lecture halls of the University of California at Davis, a tiny room holds a weapon of mass destruction. Here, behind locked doors, sits a chunk of *Xanthomonas*, a bacterial blight that has decimated rice harvests in China, India, Indonesia, Malaysia, the Philippines, Thailand, Vietnam and West Africa. Since the passage of the Bioterrorism Preparedness and Response Act of 2002, the U.S. Department of Agriculture has deemed *Xanthomonas* a “select agent,” which meant that in order to enter I had to produce a photo I.D., sign a series of documents, and suit up in a disposable lab coat. Within the restricted area, a staff researcher snapped on a pair of rubber gloves, unlocked an incubator, and extracted a petri dish of yellowish goo, which he held a few inches from my outstretched hands. “I can’t let you touch it,” he said.

**AMERICAN
GENETIC**
Scientist Pamela
Ronald and her
husband, organic
farmer Raoul
Adamchak, are
cultivating a new
way to end hunger.

