

*Debate*

## Technology and the Africa Rice Center

ISSUE: Should genetic modification be used to further economic development?

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In Africa, the rice industry is represented by the Africa Rice Center, formerly known as West Africa Rice Development Association (WARDA). The mission of the center is to contribute to poverty alleviation and food security in Africa, through research, development, and partnership activities aimed at increasing the productivity and profitability of the rice sector in ways that ensure the sustainability of the farming environment. The association started in 1970 and today boasts twenty-two African nations as members and partners with many international organizations, including the United Nations, European Commission, and the World Health Organizations. In carrying out its mission, the center recognizes three key barriers, including (1) low productivity and sustainability of rice, (2) poor quality of the marketed product, and (3) unfavorable market and policy environment. To overcome these issues, the center established a strategic plan, including the use of research and development protocols to bridge genetic diversity and produce new variations of rice and disease-resistant crops. The center's current technologies allowed for the introduction of NERICA (New Rice for Africa) rice varieties.

NERICA was created by crossing *O. glaberrima* and *O. sativa*, two species of rice that demonstrate different strengths and weaknesses when grown in Africa. Rice farmers had long hoped to combine the best traits of the two species, but efforts had been fruitless. In the early 1990s, WARDA breeders turned to biotechnology in an attempt to overcome the infertility problem. Because the different species do not naturally interbreed, a technique called embryo-rescue was used to assure that crosses between the two varieties survive and grow to maturity. By 2000, over 20,000 farmers were growing NERICA varieties in Africa. To many, NERICA is central to solving Africa's severe poverty and nutrition problems. To others, NERICA is the latest attempt by government and business to promote a solution that is not fully tested. Critics claim that NERICA requires more fertilizer and care and fails to adapt well to the soil and techniques that small farmers have used for generations. While proponents tout the modern revolution in rice, others are waiting for the empirical evidence that NERICA is good for development.

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There are two sides to every issue:

1. Defend the belief that NERICA is an appropriate use of biotechnology and genetic modification. What are the benefits of these techniques?
  2. Defend the belief that scientists should not be using genetic modification to create new species of any food, including NERICA. What are the risks associated with these techniques?
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Sources:

Africa Rice Center, "About Us," <http://www.warda.org/warda/aboutus.asp>, accessed August 17, 2009.

"Nerica: Another Trap for Small Farmers in Africa," <http://www.grain.org/briefings/?id=215>, accessed August 15, 2009.

West Africa Rice Development Association, "NERICA: Rice for Life," <http://www.warda.cgiar.org/publications/NERICA8.pdf>, accessed August 16, 2009.