

## **Amberwaves Calls for a Moratorium on Genetically Engineered (GE) Pharmaceutical Rice in California**

**Becket, Mass.-** Amberwaves, a national network of concerned citizens, families, farms, and businesses devoted to preserving natural and organic rice, wheat, and other essential foods, called today for an immediate moratorium on rice genetically engineered to produce human proteins for drug production, following disclosure of open field testing in California's Sacramento Valley.

Greenpeace activists in biohazard suits revealed the locations of open field trials of rice genetically engineered to produce human proteins for drug production in Sutter County in early September. Using gigantic syringes to mark the field and carrying banners proclaiming "This Rice Is a Drug, Stop Genetically Engineered Food," the environmental organization called upon the California Department of Food and Agriculture to remove the pharmaceutical rice and revoke all permits for field testing of drug-producing products.

The GE rice, under contract to Applied Phytologies, Inc. (API), a California company, is designed to produce human proteins such as lactoferrin or lysozyme that have pharmaceutical applications. While the experimental rice itself is not intended for human consumption, no comprehensive studies of its effects on human health or the environment have been conducted. Lactoferrin and lysozyme are commonly found in mother's milk, human bile, and tears and promote cell growth, modulate immune function, and kill bacteria. API is reportedly testing a dozen or more GE pharmaceutical rice varieties in the same location, as well as wheat and barley in Hawaii.

"America's destiny is intertwined with preserving amber waves of grain, spacious skies, and other expressions of natural beauty", stated Alex Jack, president of Amberwaves and a teacher and author based in western Massachusetts. GE pharmaceutical rice threatens to contaminate conventional and organic crops, release potentially harmful organisms into the human food chain and the environment, and imperil the livelihood of America's farmers and their families.

"GE rice particularly threatens wildlife", continues Jack, a faculty member of the Kushi Institute and editor of Saving Organic Rice and over twenty-five books on diet, health, and the environment. According to the California Rice Commission, nearly 200 species of animals live in California's rice fields, including 141 species of birds, 28 mammals, and 24 amphibians and reptiles. Thirty of these species are threatened or endangered. Millions of migrating ducks, for example, visit the Sacramento Valley every winter and eat rice seeds remaining from the autumn harvest.

Although dozens of pharmaceutical crops are being developed around the country, there is little government regulation or oversight. The USDA requires only that the GE rice be kept 20 feet from other rice. According to API, the experimental rice is at least 400 feet from neighboring commercial rice fields. However, there is no scientific consensus on how far rice pollen travels. According to Norman Ellstrand, a professor of botany at the

University of California at Riverside, modified rice genes can easily be transferred to red rice, a common weed that grows in rice fields, and other wild botanicals.

Earlier this year, Aventis, the large Franco-German biotech company, announced that it had grown nearly 5 million pounds of LibertyLink rice, the first GE rice intended for commercial production in the U.S. However, the entire crop was destroyed (by burying it in a landfill outside of Houston) following the controversy surrounding another of Aventis products, StarLink corn. Because of suspected allergenic properties, StarLink was not approved for human consumption by the FDA but only for animal feed. However, it inadvertently got into the human food chain, ultimately contaminating over 300 million bushels of ordinary corn and resulting in billions of dollars in lawsuits against Aventis. Aventis subsequently decided to get out of the biotech food business altogether, and its CropScience division is in the process of being bought by Bayer, the German pharmaceutical company.

In the first independent study of LibertyLink rice, commissioned by Amberwaves, Joe Cummins, a geneticist at the University of Western Ontario, reported that the USDA's Animal and Plant Health Inspection Service (APHIS), which originally approved LibertyLink rice, acknowledged that LibertyLink could spread its herbicide-resistant genes to surrounding plants. "The 18-page APHIS report seemed to have been generated using the bureaucratic rubber stamp", Prof. Cummins observed. "For example, there is clear agreement that the glufosinate tolerance gene will be spread to the weed red rice, but APHIS agrees with [Aventis] that the resistant red rice does not pose a threat because it can be controlled by other herbicides!" Dr. Cummins' complete report is available online at [www.amberwaves.org/web\\_articles/joecummins.html](http://www.amberwaves.org/web_articles/joecummins.html)

In 1997, the California Rice Growers Association concluded a business agreement with API to grow GE rice containing three human proteins: antithrombin, anti-trypsin, and serum albumin. There are significant human health concerns about the production of human pharmaceutical proteins and other industrial chemicals, like detergent enzymes, in rice, explained Dr. Doreen Stbinsky, an environmentalist and author of "California at the Crossroads," a report on the impact of genetic engineering on the state's agriculture. "Clearly such rice should not be eaten by humans. Yet there are many ways that rice intended for human consumption could be contaminated by drug-containing rice, starting from seed contamination in the hull of the airplanes used to fly seed onto fields, to mixing of the rice harvest in trucks, dryers, and mills." The rice association reportedly ended the agreement for undisclosed reasons, but API continued to contract with independent growers in the Sacramento Valley.

"Eighty percent of the organic rice produced in the United States is grown in the Sacramento Valley," noted Edward Esko, vice president of Amberwaves and author of Healing Planet Earth. California's organic crop could be contaminated if GE rice is allowed to continue. Manufacturing drugs and vaccines in the nation's crops is a recipe for disaster. The real answer to the modern health care crisis is harmonizing with nature, especially eating a balanced diet centered on whole grains, fresh vegetables, and other predominantly plant-quality foods. The USDA, as well as API and the other biotech

companies, should be promoting organic farming.

Amberwaves board member Michael Potter, chairman and president of Eden Foods, a pioneer natural foods company based in Michigan, contends that "it is arrogant to think that a scientist can make food better by manipulating DNA. It is far more likely that this tampering will limit the expression of the genetic potentialities of life. Recklessly releasing new man-made, untested organisms into our environment may lead to surprising, devastating results, and has already caused enormous economic damage".

Amberwaves, with branches "from sea to shining sea," has thousands of supporters around the country who have signed its petition calling for a moratorium on GE rice, wheat, and other essential foods and mandatory labeling of other GE foods. Amberwaves new web site ([www.amberwaves.org](http://www.amberwaves.org)) just went online to provide worldwide coverage of news related to GE rice and wheat and information on the benefit of whole grains, organic farming, and a natural, healthy way of living.

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Amberwaves? spokespersons are available for comment or continuing coverage of GE rice, wheat, or other foods; organic foods and farming; and related issues.

Review copies are available upon request of "Saving Organic Rice" with essays by Vandana Shiva, Mae-Wan Ho, and other scientists and environmentalists and "Imagine a World Without Monarch Butterflies" by Alex Jack with a foreword by Congressman Dennis J. Kucinich, sponsor of the GE Right to Know Bill in Congress.

**For further information, contact:**

Alex Jack, president, Amberwaves  
305 Brooker Hill Rd.  
Becket, MA 01223  
Tel (413) 623-0012 / Fax (413) 623-6042  
email: [shenwa@bcn.net](mailto:shenwa@bcn.net)

Edward Esko, vice-president, Amberwaves  
3399 Main St.  
Becket, MA 01223  
Tel (413) 623-5645 / Fax (413) 623-2027

Michael Potter, President, Eden Foods  
701 Tecumseh Road

Clinton, MI 49236  
Tel (517) 456-7424 / Fax (517) 456-6075  
email: [administration@eden-foods.com](mailto:administration@eden-foods.com)

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