

Beer Wars
Anheuser-Busch vs. Genetic Rice
By Alex Jack and Edward Esko

The campaign to preserve the natural food supply received a giant boost this spring when Anheuser-Busch, the nation's largest user of rice and maker of Budweiser beer, came out fighting mad against genetically modified rice. Before agreeing to a compromise that would establish strict safeguards to prevent contamination of conventional crops, the giant St. Louis-based brewer threatened to boycott buying any rice grown in Missouri if the state approved the cultivation of modified rice for the manufacture of drugs.

After California rejected its bid to grow pharmaceutical GM rice last year, Ventria Biosciences announced plans this spring to move its operation to Missouri and grow the controversial rice, which is spliced with human DNA, on 200 acres. A storm of protest ensued, including a petition signed by 175 rice farmers to the state's agricultural director warning of the potential contamination of ordinary crops. In neighboring Arkansas, Ricelands Foods, Inc., the world's largest rice miller and marketer, also asked the federal government to deny Ventria a permit. An estimated 95 percent of rice farmers in the Delta reportedly opposed growing the spliced rice.

"Given the potential for contamination of commercial rice production in this state, we will not purchase any rice produced or processed in Missouri if Ventria introduces its pharma rice here," Jim Hoffmeister, a vice president of Anheuser-Busch, which is known for its aggressive sales and promotion, vowed. Riceland said that its customers too did not want to risk purchasing rice contaminated with drugs, but stopped short of threatening a boycott.

Under pressure from local and state authorities in Missouri where it has been located for over a century), Anheuser-Busch later backed off its threat of a boycott after Ventria agreed to change the site of its trials and ensure that the experimental rice would not be grown within 120 miles of other rice fields. After being rejected in California, the Sacramento-based biotech company planned to relocate in Iowa. But farmers in that state devastated by contamination of their corn by GM varieties objected, and Ventria sought a safe haven in Cape Girardeau, Scott, and Mississippi counties in Missouri's Bootheel region. The biotech company's plans originally called for its GM crop to be cultivated only seven miles from other farms.

Over the last ten years, the USDA has approved more than 300 experimental plots to produce GM drugs in agricultural crops for biomedical use. However most of these average an acre or less, so that Ventria's request to grow on 200 acres, if approved, would be the largest to date. No drugs harvested from altered crops have been approved yet for commercial sale. In addition to medicinal use, Ventria has suggested that the proteins it makes in GM rice could be used eventually in poultry feed, as a topical treatment for wounds, and as dietary supplements for energy bars and other snacks.

Ventria denies that its GM rice will contaminate other crops, saying the crop is self-pollinating rather than cross-pollinating, but environmentalists have expressed alarm. “Ventria said that it won’t happen, that all their rice will be digested,” Bill Freese, a researcher for Friends of the Earth, explained. “But that isn’t believable. Birds eat huge amounts of rice, and the Bootheel is on the Mississippi flyway.

“Around 5 percent of a harvest is left behind on the ground. Even a small percentage of this pharma-rice getting out—and it wouldn’t take much—maybe 1 in 1000 grains or even less—and it would be all over with.” Tornadoes have also been cited as possible risk factors in spreading rice seeds from one area to another.

Health and environmental groups expressed disappointment at the compromise, contending that contamination was inevitable, no matter what the distance between GM and ordinary rice. However, the strong stands by Anheuser-Busch and Riceland make it unlikely that genetically engineered rice for human consumption (as opposed to pharmaceutical use) will be commercialized in the United States in the near future.

Among states producing rice, Missouri ranks sixth behind Arkansas (the top producer), California, Louisiana, Texas, and Mississippi. Though based in Missouri, Anheuser-Busch produces beer throughout the country, owning and operating its own rice mills in Arkansas and California. Altogether it accounts for 8 percent of the nation’s total rice consumption.

Ventria Leaves Missouri

In the latest turn of events, Ventria announced in May that it would not plant in Missouri this year after all because there was not enough time to obtain approval from the USDA. (It held out hope of planting in Missouri in 2006.) However, the company plans to move its field operations yet again, to North Carolina, where it already has an experimental permit for 5 acres and requested another permit to grow pharm rice at two undisclosed locations totaling 70 acres. Whether it can meet its planting deadline in the Piedmont is uncertain because the federal government must allow 20 days for public comment before granting approval. In Washington, D.C., as Ventria pulled up stakes and marched east, activist groups presented Agriculture Secretary Mike Johanns with petitions signed by 30,000 people asking for a ban on pharmaceutical crops across the country. Among corporate supporters of the ban is the Grocery Manufacturers of America, a trade association with \$500 billion in annual sales.

In addition to Budweiser—the nation’s best-selling beer—Coors, Michelob, and Rolling Rock, all top labels, contain rice. The brewing industry, which prides itself on purity laws going back to medieval Europe, appears unwilling to tolerate contamination of its products (see sidebar). The well-publicized flap over the Ventria affair signals that the American food and beverage industry is increasingly concerned about the risks of genetic engineering and responsive to consumers who do not want GM ingredients.

The StarLink corn disaster several years ago seriously dampened the release and acceptance of new modified crops. In that case, GM corn that had been approved for animal consumption but not human use inadvertently entered the food chain, ultimately contaminating millions of bushels of corn, forcing a recall of hundreds of packaged products from tacos to corn chips, and costing farmers and food manufacturers billions of dollars.

The China Connection

If the domestic rice pot boiled over in the American Delta this spring, the prospective release of GM rice in China exploded like a faulty pressure cooker. For the last several months, the Beijing government has intimated that it might commercialize GM rice for human consumption as early as this year. If China takes such a step, Thailand, Vietnam, the Philippines, India, Korea, and Japan would almost certainly follow.

The hotly contested issue erupted onto the global stage in mid-April with reports that an experimental variety of GM “anti-pest rice” not approved for use had already been marketed in several villages around Wuhan, a large city in Hubei Province, a major rice-growing area in central China. Greenpeace obtained samples of the questionable rice, and independent genetic testing in Germany confirmed that it contained genes inserted to resist insects and other pests.

The Chinese government appears to have been caught off guard by the Hubei incident, which environmentalists attributed to rogue scientists and local corruption rather than official sanction. But the release, intentional or otherwise, pointed again to the risk of contamination and the practical difficulty of keeping ordinary and GM crops apart. “This is irresponsible and dangerous,” Sze Pang Cheung, a Chinese activist noted. “The government needs to act. If they cannot control GM rice even at the experimental stage, how are they going to control large-scale commercialization?”

Whether the Hupei affair will advance or set back the introduction of GM rice in China remains to be seen. However, the American debate over pharm-grown rice may prove to have a lasting impact on events in Asia. Like some American beers, domestic beers made in China typically contain rice. Tsingtao, the most popular label, contains about 25 percent rice, and the company recently made a strategic alliance with Anheuser-Busch to expand its foreign distribution. At present, Tsingtao sells only 5 percent of its beer abroad, but it has made inroads into Europe, especially Germany. Tsingtao was the site of a former German colony in China, and Tsingtao beer has always adhered to the traditional Bavarian purity code. A Bavarian firm recently helped Tsingtao open a new modern bottling plant, and the Chinese brewer has ambitious plans of breaking into the top ten international beer companies over the next decade. Because of its size—1.3 billion people—China now represents the world’s largest beer market.

In China itself, opposition to GM foods and beverages is growing. Ipos, a global market research company, reported this spring that nearly two-thirds of consumers in

Beijing, Shanghai, and Guangzhou were aware of GM foods and that 57 percent would choose a GM-free product, up from 40 percent last year. Specifically queried about rice, 73 percent of Chinese consumers sampled further indicated that they would select non-GM rice over altered varieties.

The international market for Chinese beer and other products containing rice would almost certainly decline if GM rice were introduced. In Germany and other regions of the European Union, where strict labeling of GM products is enforced, the Chinese beer market could evaporate altogether. Anheuser-Busch, whose Budweiser beer ranks number one in world sales as well as domestic consumption, also stands to gain from keeping China GM rice-free. A-B recently acquired Harbin Brewing Group, China's fourth largest brewer, and would be hard pressed to allow GM rice in its foreign operations. Similarly, as the world's most versatile food crop, exports of other rice products from China—from rice cakes to rice noodles and pasta, from rice vinegar to rice bran oil and sake—could be expected to drop sharply over actual or perceived contamination.

As the global rice caldron continues to bubble over, the key to preserving the planet's chief food crop may lie in the brewer's traditional art.

Alex Jack and Edward Esko are founders of Amberwaves. This summer they plan to visit the Chinese Embassy and U.S. government officials in Washington D.C. on the rice issue.