BY RICK WEISS

The Washington Post

WASHINGTON — When Fred Zaunbrecher heard in August that the popular variety of long-grain rice he was planting to commercialize contained genetic contamination of another variety, he and many others turned to what he described as panic time with a different unapproved gene — irritation grew to alarm. The two sided thin varieties are sold for about a third of last year's Southern rice crop, and planting was set to begin within days.

"Everybody's been scrambling for seed," Zaunbrecher said. "I have no idea whether there will be enough or not.

The tremors going through the U.S. long-grain rice industry — amplified by the decision of many biotech-wary nations to restrict imports of U.S. rice unless questions of purity are resolved — have revealed how vulnerable a $1 billion agricultural sector can be to the escape of something as small as a molecule of DNA. But rice is not the only crop being affected by genetic pollution.

Eleven years after the first gene-altered crops got the go-ahead for U.S. planting, biotech acreage is at a record high. About 90 percent of U.S. soy and corn, as well as about 80 percent of U.S. cotton, is sown with seeds from other organisms, mostly to confer resistance to pests like insects and to make the crops harder to weed. Yet some of these genes have spread to weeds, making them tougher to control. Biotech crops approved only as animal feed have found their way into human food. And plants engineered to make medicines in their tissue have escaped from their test plots.

"Something's not working," said AI Montna, who grows 2,500 acres of rice in California. "Something's got to change."

Some farmers are pointing fingers at biotech seed producers, whose carelessness, they say, has allowed experimental DNA to drift into commercial varieties, transforming U.S. rice into a global parish and sending the industry into its biggest crisis in memory.

Others are fed up with the Agriculture Department, which in the past six months has been scooped in three federal courts for not keeping adequate tabs on the burgeoning business of genetically engineered crops.

Whatever the root cause, the string of recent disasters has piled an industry that, though long controversial in much of the world, has mostly grown under the radar in the United States. Advocates say the biotech revolution has improved productivity while reducing the consumption of pesticides and tractor fuel. A report commissioned by industry leader Monsanto Co. released last week, noted that biotech crops in 2003 allowed farmers to reduce their carbon dioxide emissions by 9 million tons.

But increasingly, farmers are concluding that unapproved varieties could be kept segregated from conventional seed. So far, gene escapes have not led to human or animal health, leading some to conclude that the real problems are the strict rules in place from the early days of biotech, when safety was a major concern.

"Most of these issues have been in place too long," said Ron Paulsgrove, a veterinarian with the company that makes Tigger seed, which is a self-pollinating variety of rice. "Almost every farm is under surveillance, and the tests are stringent."

Others see things differently. "For years the industry said, "This will never get out,"" said Joseph Mandel, legal director of the Center for Food Safety, a Washington advocacy group that has won several legal challenges against the Agriculture Department's handling of biotech crops. "Now it's, 'It will get out, but what does it matter?'

"We can have a scientific debate about this, but in the meantime it certainly matters a lot emotionally"

Fred Zaunbrecher, head of the Louisiana Rice Growers Association, said farmers are scrambling for seed contaminated with experimental DNA. But rice is not the only crop being affected by genetic pollution.

In its place, he ordered Clearfield, another non-engi neered variety, developed by BASF of Germany. But on March 5, the USDA put out a lastminute, fitting-off domestic eff orts to introduce gene-al tered rice until international markets warm to the product. He was going to plant a conventional variety called Chenmere on at least 500 of his more than 2,000 acres, until he learned that it had become inexplicably tainted with a weedkiller-resistant gene created by Bayer Crop Protection of Research Triangle Park, N.C., that was unapproved for rice.

"This is a big concern," Zaunbrecher said. "I have no idea whether there will be enough or not."

The tremors going through the U.S. long-grain rice industry — amplified by the decision of many biotech-wary nations to restrict imports of U.S. rice unless questions of purity are resolved — have revealed how vulnerable a $1 billion agricultural sector can be to the escape of something as small as a molecule of DNA. But rice is not the only crop being affected by genetic pollution.

Eleven years after the first gene-altered crops got the go-ahead for U.S. planting, biotech acreage is at a record high. About 90 percent of U.S. soy and corn, as well as about 80 percent of U.S. cotton, is sown with seeds from other organisms, mostly to confer resistance to pests like insects and to make the crops harder to weed. Yet some of these genes have spread to weeds, making them tougher to control. Biotech crops approved only as animal feed have found their way into human food. And plants engineered to make medicines in their tissue have escaped from their test plots.

"Something's not working," said AI Montna, who grows 2,500 acres of rice in California. "Something's got to change."

Some farmers are pointing fingers at biotech seed producers, whose carelessness, they say, has allowed experimental DNA to drift into commercial varieties, transforming U.S. rice into a global parish and sending the industry into its biggest crisis in memory.

Others are fed up with the Agriculture Department, which in the past six months has been scooped in three federal courts for not keeping adequate tabs on the burgeoning business of genetically engineered crops.

Whatever the root cause, the string of recent disasters has piled an industry that, though long controversial in much of the world, has mostly grown under the radar in the United States. Advocates say the biotech revolution has improved productivity while reducing the consumption of pesticides and tractor fuel. A report commissioned by industry leader Monsanto Co. released last week, noted that biotech crops in 2003 allowed farmers to reduce their carbon dioxide emissions by 9 million tons.

But increasingly, farmers are concluding that unapproved varieties could be kept segregated from conventional seed.

So far, gene escapes have not led to human or animal health, leading some to conclude that the real problems are the strict rules in place from the early days of biotech, when safety was a major concern.

"Most of these issues have been in place too long," said Ron Paulsgrove, a veterinarian with the company that makes Tigger seed, which is a self-pollinating variety of rice. "Almost every farm is under surveillance, and the tests are stringent."

Others see things differently. "For years the industry said, "This will never get out,"" said Joseph Mandel, legal director of the Center for Food Safety, a Washington advocacy group that has won several legal challenges against the Agriculture Department's handling of biotech crops. "Now it's, 'It will get out, but what does it matter?'

"We can have a scientific debate about this, but in the meantime it certainly matters a lot emotionally."

In its place, he ordered Clearfield, another non-engi neered variety, developed by BASF of Germany. But on March 5, the USDA put out a lastminute, fitting-off domestic eff orts to introduce gene-al tered rice until international markets warm to the product. He was going to plant a conventional variety called Chenmere on at least 500 of his more than 2,000 acres, until he learned that it had become inexplicably tainted with a weedkiller-resistant gene created by Bayer Crop Protection of Research Triangle Park, N.C., that was unapproved for rice.

"This is a big concern," Zaunbrecher said. "I have no idea whether there will be enough or not."

The tremors going through the U.S. long-grain rice industry — amplified by the decision of many biotech-wary nations to restrict imports of U.S. rice unless questions of purity are resolved — have revealed how vulnerable a $1 billion agricultural sector can be to the escape of something as small as a molecule of DNA. But rice is not the only crop being affected by genetic pollution.

Eleven years after the first gene-altered crops got the go-ahead for U.S. planting, biotech acreage is at a record high. About 90 percent of U.S. soy and corn, as well as about 80 percent of U.S. cotton, is sown with seeds from other organisms, mostly to confer resistance to pests like insects and to make the crops harder to weed. Yet some of these genes have spread to weeds, making them tougher to control. Biotech crops approved only as animal feed have found their way into human food. And plants engineered to make medicines in their tissue have escaped from their test plots.

"Something's not working," said AI Montna, who grows 2,500 acres of rice in California. "Something's got to change."

Some farmers are pointing fingers at biotech seed producers, whose carelessness, they say, has allowed experimental DNA to drift into commercial varieties, transforming U.S. rice into a global parish and sending the industry into its biggest crisis in memory.

Others are fed up with the Agriculture Department, which in the past six months has been scooped in three federal courts for not keeping adequate tabs on the burgeoning business of genetically engineered crops.

Whatever the root cause, the string of recent disasters has piled an industry that, though long controversial in much of the world, has mostly grown under the radar in the United States. Advocates say the biotech revolution has improved productivity while reducing the consumption of pesticides and tractor fuel. A report commissioned by industry leader Monsanto Co. released last week, noted that biotech crops in 2003 allowed farmers to reduce their carbon dioxide emissions by 9 million tons.

But increasingly, farmers are concluding that unapproved varieties could be kept segregated from conventional seed.

So far, gene escapes have not led to human or animal health, leading some to conclude that the real problems are the strict rules in place from the early days of biotech, when safety was a major concern.

"Most of these issues have been in place too long," said Ron Paulsgrove, a veterinarian with the company that makes Tigger seed, which is a self-pollinating variety of rice. "Almost every farm is under surveillance, and the tests are stringent."

Others see things differently. "For years the industry said, "This will never get out,"" said Joseph Mandel, legal director of the Center for Food Safety, a Washington advocacy group that has won several legal challenges against the Agriculture Department's handling of biotech crops. "Now it's, 'It will get out, but what does it matter?'

"We can have a scientific debate about this, but in the meantime it certainly matters a lot emotionally."

In its place, he ordered Clearfield, another non-engi neered variety, developed by BASF of Germany. But on March 5, the USDA put out a lastminute, fitting-off domestic eff orts to introduce gene-al tered rice until international markets warm to the product. He was going to plant a conventional variety called Chenmere on at least 500 of his more than 2,000 acres, until he learned that it had become inexplicably tainted with a weedkiller-resistant gene created by Bayer Crop Protection of Research Triangle Park, N.C., that was unapproved for rice.