is touting two potential sites, but there is little government support for the effort.

That leaves Japan, which is mulling over three potential sites and where industry and government backing of the project is strong. On 8 July, an editorial in the English-language *Japan Times* made the case boldly. "This time it is Japan's turn," wrote Kazua Nukazawa, executive counselor of the Keidanren, a federation of the country's most powerful companies. "The time has come for cutting-edge international scientific research to be conducted in Asia. ... ITER should come to Japan." Officials familiar with the Japanese effort say that the government and industry are willing to foot at least 70% of the bill.

That scenario appears increasingly likely after Jürgen Rüttgers, the German research minister, and his French counterpart, François d'Aubert, announced last week that neither nation will host the facility if the host must pay 70% of the costs. The ministers emphasized that they will maintain their role in ITER's design phase and continue with their domestic programs, however. The 17 July communiqué followed a visit by Rüttgers to the French capital.

"It's clear that this is a German initiative," says Ernesto Canobbia, international relations adviser for fusion at the European Commission. "Rüttgers ... has coerced France into this," he added. European officials say that the Commissariat à l'Énergie Atomique, which is responsible for the French fusion program, was unaware of the decision. "This comes as a surprise, although it has been evident for a while that Europe would not host a site at a funding level of 70%, or even 50%," adds Ronald Parker, a manager at the ITER design site in Garching, Germany.

The announcement also came as an unpleasant shock to ITER director Robert Aymar, who disputed the size of the financial load on the host country. "There is a misunderstanding among a lot of people," says Aymar, a French physicist and former chief of the Institute of Fundamental Research in Paris. "The 70% figure has never been discussed officially." The ITER partners have talked about the host putting up 30% of the costs, he said, including the buildings, wiring, piping, and some large items not easily transported, "but the remainder could be shared" by the nonhost nations. "Even the 30% could be split."

Aymar pointed out that the French-German statement does not rule out either country hosting ITER if the tab for that honor is less than 70% of the costs. However, the shrinking number of major partners will inevitably raise the overall cost of ITER to the host country. "The only possible solution now is a host country who takes care of the largest part," says Canobbia. "It has to be more than 50%. You can't build ITER in Japan, with Europe paying half, or the other way around."

The timing of the French-German decision is particularly awkward for the ITER council, made up of representatives of the partners. The council meets this week in St. Petersburg to approve a report on the project's future and begin work on how to structure a partnership during the construction and operation phase. That effort would last until July 1997, Aymar says, when formal negotiations are scheduled to begin. Only then will specific responsibilities be set, he adds. For ITER's European backers, the challenge is to maintain enthusiasm for a project that appears increasingly likely to bear a stamp marked Made in Japan.

–Andrew Lawler

With reporting by Alexander Hellemans in Brussels.

AGRIBIOTECHNOLOGY

Pests Overwhelm *Bt* Cotton Crop

One of the first large-scale plantings of a transgenic crop isn't working out quite the way its developer, Monsanto Co., had hoped. Thousands of acres of cotton bioengineered to make its own insecticide have fallen victim to cotton bollworms, one of three pests that the crops were supposed to kill. In addition to coming as a rude surprise to farmers who must buy and apply pesticides after planting the premium-priced seeds, the result has heightened the fears of environmental activists that the insects will eventually develop resistance to the toxin, known as *Bt*—and that fear has revived calls for tougher federal biosafety regulations. The news triggered a 1-day, 18.5% drop in the stock price of the company that markets the seeds, Delta and Pine Land Co., and the reasons behind the disappointing results serve as a reminder to researchers that Mother Nature still has a few tricks up her sleeve. "It's taken a little bit of the glow off this stuff," says Fred Gould, an entomologist at North Carolina State University.

So far, the problem affects only a small portion of the 2 million acres planted this year with Monsanto's *Bt* cotton seed, which contains genes from the bacterium *Bacillus thuringiensis* (*Bt*). *Bt* toxin is harmless to humans, but it kills three pests that attack cotton—cotton bollworm, pink bollworm, and tobacco budworm. Early last week, Monsanto announced that up to 20,000 acres of *Bt* cotton were failing in eastern Texas. Monsanto has since advised farmers from Oklahoma to Georgia to be ready to spray because of infestations of bollworms.

Monsanto emphasizes that the *Bt* cotton—about 13% of the total U.S. cotton crop—had been working well against bollworms until their numbers recently shot up. The company's chief scientist for *Bt* cotton, Randy Deaton, says the increase may be the result of unusually hot weather and the fact that more Southern farmers planted corn—a breeding ground for bollworms—this year to take advantage of high corn prices. With such high densities, even a survival rate of 5% to 10% means a lot of hungry bollworms. Given those numbers, says Gould, "no entomologist was really surprised" by the *Bt* cotton failure.

What is worrying some scientists, however, is that such failures will speed up the evolution of pests resistant to *Bt*. That threatens the viability of not only *Bt* plants but also *Bt* sprays, which are used by organic farmers; resistance could develop much faster with plants than with sprays because the plants produce toxin continuously. Last week the Union of Concerned Scientists asked the Environmental Protection Agency (EPA), which requires resistance-management plans, to suspend Monsanto's registration for *Bt* cotton.

The union's Margaret Mellon says the problem is that the *Bt* cotton isn't producing enough toxin to kill most of the bollworms, so many insects with resistance will survive. But Deaton says that there is disagreement on whether high doses are needed to guard against resistance, and whether sufficient precautions are being taken. The company is relying on "refugia"—nearby plants that don't contain *Bt* toxins—to sustain pest populations that can mate with and dominate the genes of any resistant insects. EPA Assistant Administrator Lynn Goldman says the agency won't make any decision until it has received information on whether the cotton is adequately expressing the protein and whether any insects appear to be developing resistance.

Gould says that the use of refugia should prevent resistance from developing in a single season, but he believes EPA should consider requiring larger refugia within fields. He says EPA may also need to consider what will happen when *Bt* crops that kill bollworms are planted side by side, as could happen next year when Monsanto plans to begin marketing *Bt* corn. Other scientists want EPA to enlist the help of outside experts. "I'm sympathetic with companies wanting to get their money [investment] back, says William McGaughey, a geneticist with the U.S. Department of Agriculture in Manhattan, Kansas. "But a little more knowledge would be useful, too."

In the end, the market may be the final arbiter of *Bt* cotton. "When it all settles down, [growers] will still think this is a good technology," predicts Ray Young, an agricultural consultant in Mississippi. "But it may not be worth as much as [Monsanto] is pricing it at."

–Jocelyn Kaiser