RANDOM SAMPLES

edited by CHRISTOPHER ANDERSON

State Backs Breast Cancer Research

Now that the U.S. Congress has singled out breast cancer research for special funding—allotting the field $210 million in earmarked appropriations last year—one state has decided to follow suit. Last month, Massachusetts announced the first 15 grants for scientists in the state doing breast cancer research, funding projects from the role of estrogen receptors to mammography technology. The grants are part of the state's new $3 million breast cancer testing, education, and research program, of which $700,000 will go to research.

The program was first proposed early last year by state senator Lois Pines, who was concerned about the state's high breast cancer rate (18% over the national average), and it got a lift soon after when National Cancer Institute (NCI) director Samuel Broder agreed to match the grants with NCI money. NCI has, in fact, reserved a pot of money to match any state breast cancer research programs (Massachusetts has the only one at the moment), but it won't mean an automatic doubling of state funding. Instead, researchers can ask NCI to reinstate deleted funds from previously approved NCI grants, or use the money to add a disabled or minority researcher to such a grant.

Next year, the Massachusetts legislature has increased the grant program budget to $4 million, with $1 million earmarked for research. Pines had originally intended to have the grant applications reviewed by a blue-ribbon panel of Massachusetts researchers, but the state ethics board vetoed that on conflict-of-interest grounds. Now the program is managed by the state Department of Public Health, which used out-of-state reviewers for this year's round of applications. Pines has changed the law, however, to allow in-state researchers to review the proposals next year, as long as they recuse themselves from decisions affecting their own institutions.

Swept away. Midwest flooding claimed agricultural research.

Flood Uproots Transgenic Crop

Somewhere downstream of Johnston, Iowa, perhaps under a few feet of river mud, lie the remains of one half-acre of experimental insect-resistant transgenic corn. Or perhaps not. Perhaps they're somewhere else entirely. In fact, nobody knows where the corn has gone. What the geneticists who planted the crop do know is that in mid-July, the flooding that inundated much of the Midwest turned a timid Iowa tributary called Beaver Creek into a raging torrent, transforming a nearby transgenic plant test plot run by Pioneer Hi-Bred International into a small part of a giant river system.

The damage to Pioneer's research program was relatively minimal, says spokesman Tim Martin; the transgenic corn still grows at two other sites. But what could be more serious is the release of the genetically engineered plants. To comply with federal regulations, researchers often surround their plots with moats, fences, and vegetation-free areas. Pioneer had done all that, but a river ran through it.

Fortunately, although the transgenic corn is on the loose, it isn't likely to be reproducing. Martin says that at the time of the flood, the plants were knee-to-waist high—still too young to have tassels, pollen, or grain, and broken-off corn won't root elsewhere. "They wouldn't be able to transfer any genetic material to anything else," he says.

What if the flood had arrived a few weeks later, when the plants were mature? There's still no cause for alarm, Pioneer says: When transgenic plants do mature, researchers usually "detassle" them—strip their pollen-bearing parts—so wandering plants would be unable to leave their calling cards elsewhere in the world.

Good Chemistry at Electronic Conference

Forget huge registration fees and long plane trips to overcrowded cities. The traditional science conference could be a thing of the past if a new sort of symposium held last month catches on. From July 14 to August 20, 450 chemists from 33 different countries "attended" a conference called "Applications of Technology in Teaching Chemistry" without leaving their desks—they simply turned on their computers. The scientific meeting was the first ever conducted solely over the Internet.

The e-mail conference was sponsored by the American Chemical Society and organized by University of Maryland chemist Thomas O'Haver. While the method of information exchange was unusual, the setup of the conference was quite familiar—researchers submitted papers for peer review in advance, which were then placed, complete with digitized photos and graphs, on the computer network for easy access.

In evaluating the conference, researchers had overwhelmingly positive reactions, O'Haver says. While some said they missed the face-to-face contact and even the chance to travel, they relished the extra time for thoughtful discussion that writing allows—as opposed to the hurried 10 minutes for questions often granted after a live presentation. If O'Haver can come up with a virtual hotel bar for post-session socializing, the travel and convention industry may really have something to worry about.

Processing the New Coke Fiasco

In the world of marketing, the disastrous failure of New Coke is a major puzzle. Coca-Cola's ill-fated attempt to woo the hearts and taste buds of the American public had plenty of research to back it up: Surveys and blind taste tests all supported the new, sweeter flavor. But a new mathematical model of consumer behavior indicates that customer backlash against the new flavor was eminently predictable—and avoidable.

Mathematician Daniel Levine of the University of Texas in Arlington used a neural network to explain the consumer revolt he reported at the AAAS Science Innovations meeting last month. His network is a computer program that mimics the way the human brain reacts to patterns of data. Developed with collaborator Samuel Levin, the network makes use of mathematical algorithms that model an individual's response when deprived of an expected and repeated positive stimuli. The network predicts a "frustrative rebound" when such deprivation occurs, with the result that the individual prefers almost anything—Pepsi, even—over any offered replacement for the stimulus.

What Coca-Cola failed to understand accurately, Levine says, is that taste is only one consideration in buying a soft drink. Consumers expected a certain familiarity when they bought a soda with the Coke label. And when those expectations went unfulfilled by the new, sweeter soda, consumers expressed their frustration by buying Pepsi.