

Rifkin Takes Another Shot at UC Experiment

Jeremy Rifkin's crusade against genetic engineering was back in court on 12 April seeking to block an experiment planned by researchers at the University of California at Berkeley. Rifkin, a writer who directs the Foundation on Economic Trends, filed suit against the experiment last year and has now gone back to court in an effort to stop the research from being conducted while his original suit is still pending.

The challenged experiment, planned by a team headed by Steven Lindow, involves spraying potatoes with genetically engineered bacteria. A bacterium called *Pseudomonas syringae* promotes the formation of ice crystals in some plant tissues, but Lindow has found that it loses this ability when a region of its genome is deleted. He now wants to field test this modified bacterium to see whether plants that it colonizes will be more frost-tolerant than those colonized by natural strains.

The modified bacteria are expected to make plants tolerant to temperatures as low as 23°F. Thus the field tests must be carried out when nighttime temperatures dip below freezing but do not go below 23°F. This occurs at the proposed test site in the early fall, spring, and early summer.

The experiment was approved last year by the Recombinant DNA Advisory Committee of the National Institutes of Health, and ultimately by NIH itself. But Rifkin filed suit last September claiming that NIH had not complied with the National Environmental Policy Act in giving its approval. He then threatened to go back to court to seek a temporary injunction to block the experiment, but the university decided to delay the field test until this spring (*Science*, 21 October 1983, p. 309).

Part of the reason for putting the experiment off was the hope that Rifkin's suit would be resolved during the winter, but no trial date has yet been set. "It seemed to us that we have no other alternative" but to go ahead, says an attorney for the university, and plans were made to begin in the next few weeks. Rifkin thus made good on his threat to seek an injunc-

tion to block the proposed experiment.

Judge John J. Sirica is expected to rule on Rifkin's motion by the end of April and the original suit may go to trial in the summer.—COLIN NORMAN

Last Rights

Ten prominent physicians have published an article in the *New England Journal of Medicine* (12 April) outlining criteria for what promises to become an ever more visible issue: the appropriate withdrawal of medical care from dying patients.

The principles, which are in line with those articulated last year by the President's biomedical ethics commission, put primary emphasis on two concerns: the desires of and the comfort of the patient. They also stress that "practically all patients, even disturbed ones, are better off knowing the truth."

With patients who are incompetent, the doctors write, the wishes of the family or a proxy should be heeded. They say it is "morally justifiable" to withhold not only treatment but nutrition from a patient in a comatose "vegetative" state. "Severely demented" patients should not be fed intravenously if they refuse food by mouth, nor should diseases such as pneumonia be treated unless treatment enhances comfort. Among patients described as "pleasantly senile," any emergency resuscitation or intensive care should depend on what is known about the patient's wishes.

Peoples' rights to forgo life-prolonging measures are being increasingly recognized by law. So far, 18 states and the District of Columbia have passed "natural death" acts which legally recognize patients' "living wills" or prior statements about terminal care. Although right-to-life groups have not been as vociferous about preserving the dying as they are about the unborn, they have succeeded in blocking legislation in several states, including Connecticut and Massachusetts.

The guidelines were distilled from a meeting, organized by the Society for the Right to Die, held at Harvard Medical School in October 1982. It was chaired by Daniel D. Federman of Harvard.—CONSTANCE HOLDEN

Russia Gives Up Two Scientists

The recent emigration of two Soviet scientists has aroused tentative hopes that dissident scientists will fare better under the regime of Konstantin Chernenko than they did under Yuri Andropov.

The two are David Goldfarb, former head of the Laboratory of Molecular Genetics of Bacteria and Bacteriophage in Moscow, and Valery Godyak, a plasma physicist and peace activist.

Goldfarb, who applied to leave the U.S.S.R. in 1979, has delayed leaving Moscow in hopes of bringing his daughter and son-in-law with him to Israel, where he has accepted a professorship at the Weizmann Institute of Science. His son, Alex, is a microbiologist at Columbia University.

Godyak technically stopped being a refusenik in 1980 when he gave up his quest to emigrate and got involved in the peace movement. In February he received a telephone call ordering him to leave the country. He arrived in New York in early April with his wife and baby and is looking for a job.

Concerned scientists in the United States see other faint signs that treatment of dissident scientists may be improving. For example, when physicist Yuri Orlov's 7-year sentence recently ran out, he was exiled rather than resentenced. Physicist Viktor Brailovsky has been allowed to return to Moscow from exile. And, according to Joel Lebowitz of Rutgers University, a "positive and upbeat" letter was recently received from imprisoned computer scientist Anatoly Shcharansky. On the other hand, physicist Andrei Sakharov is still languishing in Gorki and his wife, Elena Bonner, is still being denied permission to go abroad for medical treatment.

According to Alex Goldfarb, his father was told that permission to emigrate was timed to defuse concern about his case anticipated at a meeting of the Federation of European Biochemical Societies, to be held in Moscow in June.

According to a report by a recent visitor to Moscow, there are about 300 refusenik scientists in the Moscow area awaiting permission to leave the country.—CONSTANCE HOLDEN