

the National Institutes of Health.

Strobel began his experiment on 13 June by injecting the modified bacteria into 14 elm trees located behind the university's stadium. The bacteria are not perceived as a threat to the environment, but their use in an outdoor experiment was subject to federal review because the organisms had been genetically altered. The strain of *P. syringae* was modified through the insertion of an *Escherichia coli* plasmid containing genes that code for an antifungal protein.

On 3 July, says Cliff Bond, chairman of MSU's Biosafety Committee, Strobel infected 28 American elm trees (*Ulmus americana*) that are 10 to 18 years old with the Dutch elm fungus, *Ceratocystis ulmi*. The university biosafety committee did not become aware of the experiment until 27 July, when it received a letter from Strobel, dated 13 July, describing the experiment. EPA began investigating the matter shortly thereafter.

Following a 12 August meeting of MSU's biosafety committee, Strobel was quoted as saying that he was "expressing civil disobedience" to protest federal regulations that have put a "restrictive environment" around scientific research involving the release of recombinant organisms. Strobel first contacted EPA in May or early June about obtaining a permit and then on 15 June actually applied for one—2 days after he had injected the elm trees with the modified organism. EPA officials advised Strobel that it would take about 3 months to obtain a permit.

Strobel's primary motivation for proceeding with the experiment without a permit was the need to begin in June or July when the Dutch elm fungus is most active. Obtaining a permit would have meant waiting until next summer. It appears, however, that this delay could have been avoided had Strobel submitted his field trial proposal to federal authorities earlier. Strobel had been aware of the potential antibiotic effects of the modified organism for years. He wrote a paper on the subject, which appeared in *Plasmid* (volume 13, pages 200–204) in 1985, according to Bond.

Bond told *Science* that Strobel's action was particularly disturbing since he introduced the Dutch elm disease into the Bozeman, Montana, area by infecting the university trees. EPA and university officials say the disease has not been detected in the Bozeman area. The risk of spreading is considered minimal since MSU's biosafety committee now plans to destroy the infected trees.

The university's biosafety committee is calling Strobel's action a "flagrant violation of federal regulations and university policy." Strobel could not be reached for comment. ■ **MARK CRAWFORD**

## Census a Public Burden?

The Office of Management and Budget (OMB) has stirred up a hornet's nest of outrage and concern with what appeared to be a proposal to eliminate about one-third of all the questions from the 1990 census forms now in preparation.

The OMB, at a congressional hearing hastily called in response to complaints, has insisted that it made no "proposal" but merely attempted to "raise questions" about certain items in line with its responsibility to reduce the paperwork burden to the public under the Paperwork Reduction Act of 1980.

The stir has resulted from a 24 July meeting between staff members from OMB and the Bureau of the Census at which OMB officials produced a list of questions that they reportedly said "should be" eliminated or moved to the longer sampling form. The "100% form" is sent to all 96 million households in the country; the long form goes to 1 in 6. Two-thirds of the items in question deal with housing, including items designed to elicit information on rental costs, home heating and utilities, value of housing, real estate taxes, and insurance. OMB also expressed doubts about questions on fertility, migration, unemployment, and commuting.

The OMB Office of Information and Regulatory Affairs chairs the Federal Agency Council on the 1990 Census, which for the past 3 years has been conducting public hearings and running pretests of census questions in selected areas of the country. Census officials were therefore surprised and alarmed at what appeared to be a last-minute switch by OMB.

Senator Paul Sarbanes (D-MD), chairman of the Joint Economic Committee, responded by calling a hearing on 7 August which featured a lengthy grilling of Wendy Lee Gramm, director of OMB's regulatory affairs office. Gramm strenuously sought to quell the alarm, insisting that the notion that OMB had made a "proposal" to cut questions was "absolutely wrong, incorrect, and irresponsible." She said, however, that OMB believes some of the data could be obtained from other sources, some questions would yield data of doubtful reliability, and others did not need to be asked of the whole population.

It has not been suggested that shortening the forms would save any money for the government, which expects to lay out \$2.6 billion for the 1990 census. Rather, the object is to reduce the "burden" on the public. OMB estimates that it takes 45 minutes to fill out the long form and 15 minutes for the 100% form, which adds up to \$450 million at \$15 an hour. Committee members were skeptical. Sarbanes said the estimate was "grossly overstated" in view of the fact that the median hourly wage is about \$10. Representative James Scheuer (D-NY) said, "I can't remember constituent complaints about the census."

But while it is not clear what constitutes an undue public burden, public and private organizations—many of whom have written letters to OMB—have been very explicit about what the loss of 30 census questions would mean. Officials from various federal agencies say the data are needed for the administration of housing, transportation, and employment programs as well as economic indicators such as the Consumer Price Index. Detailed migration and fertility data (the fertility question has been in almost every census since 1890) are especially needed by local governments. Businesses and researchers also rely heavily on the contested items.

Katherine Wallman of the Council of Professional Associations on Federal Statistics says that the decennial census is the only source for geographically fine-grained data and data that are comparable for all areas of the country. She says only questions of proven reliability have emerged from the long winnowing process.

The upshot of the fuss has been that OMB has extended the public comment period for census bureau proposals from 7 August to 14 September. The census bureau has resubmitted its justifications for the items in question. Time is short, as the final form for the census "dress rehearsal," scheduled for 20 March 1988, has to go to the printer by the beginning of October.

The census uproar is only the latest manifestation of widespread discontent with OMB's role with regard to federal data-gathering activities (*Science*, 21 November 1986, p. 934). The paperwork act requires OMB to approve public surveys proposed by government agencies. But many have complained over the years that the agency has used the act to obstruct the collection of data that it regards as unnecessary or the business of the private sector. ■ **CONSTANCE HOLDEN**