

## Briefings

edited by CONSTANCE HOLDEN

### Animal Rules Final

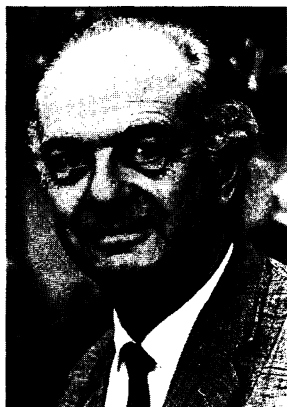
After nearly 6 years of labor, the Department of Agriculture has brought forth final regulations on the most controversial part of the Animal Welfare Act Amendments of 1985: the care of dogs and primates in research. With the publication of the rules—79 pages in the 15 February *Federal Register*—animal regulations are essentially complete. Rules governing smaller animals were finalized last July.

The new standards are more flexible—and much less costly—than proposed regulations issued in 1989. Those had sent Agriculture's Animal and Plant Health Inspection Service (APHIS) scurrying back to the drawing board under a hail of negative public comments. Estimates for new facilities and personnel to implement the regulations have been reduced from \$1.75 billion to about \$537 million. Accounting for much of the decrease are relaxed requirements regarding exercise for dogs and "psychological well-being" of primates. APHIS originally detailed specifications on everything from cage size to dog running time; now it has heeded scientists' pleas for more flexible "performance" standards. That means few changes will have to be made in cage sizes so long as they conform with existing Public Health Service standards. And institutions are allowed to formulate individualized plans to meet animals' behavioral needs.

The inordinate lengthiness of the rule making process has yielded one major benefit, according to the National Association for Biomedical Research. The rules now have a better scientific basis than they would have had a few years ago, since there has been time to incorporate new research—such as findings that dog and monkey well-being is better promoted by socializing than by more space.

### Pauling at 90

Linus Pauling, the world's only winner of two unshared Nobel Prizes (chemistry in '54, peace in '62), celebrated his 90th birthday on 28 February as host of a scientific symposium on his



Linus Pauling

specialty—the chemical bond—at the California Institute of Technology.

Pauling remains active in research at the Linus Pauling Institute in Palo Alto. And he hasn't become any less absorbed with his controversial late-life epiphany: While still seeking a publisher for his latest book on cancer and Vitamin C, Pauling—who ingests 18 grams of crystalline ascorbic acid every day—

says he has recently moved on to heart disease. He and a colleague have developed a guinea pig model for atherosclerosis. Guinea pigs usually eat a diet rich in Vitamin C, but if their diets are altered so they get levels comparable to what humans consume, says Pauling, "then they develop atherosclerosis."

### Bomb Detectors: OTA Thumbs Down

The government's plan to have airlines install hundreds of sophisticated bomb detectors—thermal neutron activation (TNA) machines that cost \$1 million apiece—came in for more criticism last week. Last year the scheme was faulted by a special White House panel on terrorism. This time the negative review comes from the Office of Technology Assessment (OTA) in a report titled "Technology Against Terrorism."

The Federal Aviation Administration has championed TNA as the best method of detecting explosives hidden in check-in luggage, and has invested millions of dollars in the technology. So far, 6 machines have been deployed for testing, and a

1989 federal rule would require international airlines to install them in the future.

But Anthony Fainberg, chief author of the OTA report, says the mass purchase of TNA machines would be "inadvisable at this time" because TNA gives off too many false alarms when tuned to detect small bombs—the problem that has bedeviled the technology since its inception (*Science*, 1 September 1989, p. 926). Fainberg said that while TNA devices are "the most advanced and most tested technology available," their efficacy is not yet proven. In testimony last week before the Senate Governmental Affairs Committee, he urged the government to continue testing while considering other promising technologies such as vapor detection, computerized tomography, and advanced x-ray techniques.

FAA security chief Lynne Osmus countered that Fainberg is "overly optimistic" about other technologies and defended TNA, noting that over the past 6 months at England's Gatwick Airport, where TNA machines are in operation, "false alarms are down" and performance is better than when OTA last examined the data.

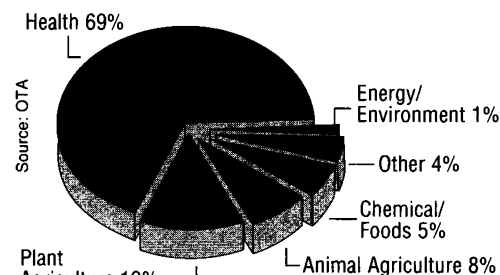
### Biotech: Rx for a Healthy Future

The United States is the world leader in biotechnology, and the President's Council on Competitiveness wants to make sure it stays that way—particularly in the face of increasing competition from Japan and Europe. The council, chaired by Vice President Dan Quayle, has come out with a report\* that offers a prescription for keeping the U.S. biotech industry healthy and for helping it grow from a \$2-billion industry to a \$50-billion enterprise by the year 2000.

Most of the council's 15 recommendations are obvious ones related to the need to foster competitiveness and encourage commercialization of new discoveries. But the report is significant in that it shows that "the White House is supportive of biotechnology," says Pamela Bridgen, executive director of the Association of Biotechnology Companies. "This report shows it recognizes our industry has certain needs that must be addressed"—such as federal support for training young scientists and engineers and tax incentives for R&D.

\*The President's Council on Competitiveness "Report on National Biotechnology Policy."

The council basically endorses the free market route to fostering biotechnology R&D and advises the Administration to oppose the creation of any new regulatory agencies or bodies to oversee biotechnology. The report also signals that the Administration is prepared to defend the Orphan Drug Act (*Science*, 11 May 1990, p. 678) aggressively against proposed changes in Congress that it says would undermine the economic incentives for producing new drugs for rare dis-



**Industrial biotech R&D by application.** Industry spent about \$2 billion in fiscal 1990, while the federal research investment ran to \$3.5 billion, 80% of which was awarded through NIH.