Briefings

edited by CONSTANCE HOLDEN

Better Numbers on Primate Research

When *Science* published figures on primate research in the 16 February issue (p. 811), we were off—way off. A mixup in a communication with a spokesperson at the Alcohol, Drug Abuse and Mental Health Administration led us to report that total research citations involving primates, according to the National Library of Medicine's Medline, have gone down since 1977. That seemed to support the widespread impression that scientists have become chary of doing primate research. But in reality, the annual figure of about 2800 citations remained stable through last year.

As for drug abuse studies involving primates, the annual number of published citations has never been in the thousands, as *Science* mistakenly indicated. Rather, Medline reports that citations averaged 15.6 a year in 1977 through 1979, rising to 18 a year in 1986 to 1987, and dropping to 7.8 a year in 1988 through August 1989. That decline underlies the claim frequently made by ADAMHA director Frederick Goodwin that drug studies involving primates have dropped by 60% owing to animal activism.

The use of primates in research on depression and manic depression has also dropped as reflected in citations—to zero in the past 2 years, after peaking at about five citations a year in the mid-1980s.

Activists Urge Ban on Herbicide R&D

A coalition of environmentalists, academic scientists, and farm organizations wants to put a halt to federal and state grants that fund research to develop herbicide-resistant plants.

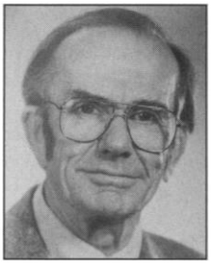
Scientists in industry, academia, and the Department of Agriculture are currently genetically modifying more than 30 crop and forest species to withstand damaging levels of herbicides. But the Biotechnology Work Group, in its report "Biotechnology's Bitter Harvest," says that such research will only set up a vicious cycle. There are likely to be exchanges of herbicide tolerance genes between domesticated crops and their weedy relatives, the group warns, and this would result in the need for more herbicide use, which would lead to increased ground water contamination.

The group, based at the National Wildlife Federation in Washington, D.C., calls for a prohibition on the introduction of trees that have been engineered for herbicide tolerance into the national forests and other federal property. It also urges the United Nations' Food and Agriculture Organization to restrict the export of herbicide-tolerant plants to other countries.

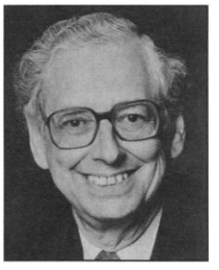
In Congress, Senator Patrick Leahy (D–VT), chairman of the Committee on Agriculture, Nutrition, and Forestry, is listening: he plans to introduce legislation that would ban federal support for applied research on herbicide resistance.

Tyler Prize Goes to Cornell Scientists

Entomologist Thomas Eisner and chemist Jerrold Meinwald of Cornell University have been jointly awarded this year's $150,000 Tyler Prize for Environmental Achievement. The two men, described as the "founding fathers of chemical ecology," were honored for their discoveries on how insects use chemistry to aid in survival and reproduction.



Eisner



Meinwald

The Tyler committee, based at the University of California at Los Angeles, noted that their work paves the way for the development of new drugs and advances in pest control, as well as identifying elements of the "biochemical ecosystem" before it disappears.

Eisner has been busy of late rounding up foundation support for institutes around the world that would supplement conservation activities with "chemical prospecting"—his term for identifying new plant and animal substances of potential value for humans (*Science*, 10 November 1989, p. 754).

Meinwald, identified by the committee as one of the world's leading chemists, has broken new ground in identifying a variety of pharmacologically active substances from unexpected sources—such as sedatives from millipedes and cardiotonic agents from fireflies.

Forty-four-year-old male identical twins. *Loss of brain volume and enlarged ventricles associated with schizophrenia are apparent in the image on the right. The brain on the left is normal.*

Schizophrenics' Brains

After John Hinckley, Jr., shot President Reagan in 1981, brain scans of the would-be assassin, who was diagnosed a schizophrenic, showed that his ventricles—butterfly-shaped, fluid-filled spaces between the lobes—were enlarged. This has been an oft-noted characteristic of the brains of schizophrenia sufferers. But since many schizophrenics do not show enlarged ventricles and some nonschizophrenics do, researchers have not been sure the phenomenon is linked to the disease.

Now, a study of identical twins, done by scientists at the National Institute of Mental Health (NIMH), has provided the firmest evidence to date of such a linkage.

The researchers, headed by Daniel R. Weinberger of the Clinical Brain Disorders Branch, used magnetic resonance imaging to study the brains of 15 pairs of identical twins in which one of each pair had been diagnosed as schizophrenic. In 14 of the afflicted twins, reductions were found in the size of their hippocampi; some also showed reduced temporal lobes. The lateral ventricles were correspondingly enlarged in 14 of the schizophrenics. No such differences were noted in any of the seven normal twin pairs used as controls.

Schizophrenia has a heavy genetic loading—if one member of an identical twin pair has the disease, there is a 50% likelihood that the other will have it. But Weinberger says the study, reported in the 22 March issue of the *New England Journal of Medicine,* also strengthens the case for the involvement of non-genetic factors. Researchers suspect that the brain structure abnormalities may stem from a pathological neural process during a critical period in fetal development.