RANDOM SAMPLES

edited by CONSTANCE HOLDEN

No Virus for New Zealand Bunnies

New Zealand's Ministry of Agriculture has nixed the idea of following Australia's lead and introducing a deadly virus to wipe out its problem rabbits. In a 2 July statement, the ministry said not enough is known about rabbit calicivirus disease (RCD), which is killing Australian rabbits by the millions. "We cannot go and retrieve the virus if we are not happy with its behavior," noted agriculture official Peter O'Grady.

Despite research in Australia, which has included many tests to see if the virus will affect species other than rabbits, O'Grady said scientists still have "a poor understanding of the epidemiology" of RCD. He also said there is "significant uncertainty" as to how effective the virus would be in New Zealand, which lacks insects believed to be spreading the disease in Australia.

RCD has been spreading in Australia since the fall of 1995, when officials decided to introduce the virus around the country after it escaped to the mainland from an island experimental station. The program has reportedly been successful: In some areas, flora and fauna that had been suppressed for decades by ravenous rabbits are bouncing back thanks to heavy rabbit mortality (*Science*, 10 January, p. 154).

The decision to keep the virus banned, which was supported by the New Zealand Association of Scientists, comes as welcome news for U.S. virologist Alvin W. Smith of Oregon State University in Corvallis, who has long opposed unleashing the virus. "The warnings I've been giving have been heard by the New Zealand people, I think," he says.

Teen Mother Program Flops

A major program aimed at helping teen mothers has failed to make them any more self-sufficient or less likely to have more babies than a control group, according to a report issued this month.

The program, New Chance, was designed as a rigorous test of how single mothers who were also high school dropouts would fare when provided with education, job training, counseling, health services, and child care over a period of 18 months. Conducted by the Manpower Demonstration Research Corp. (MDRC) in New York City, the program ran at 16 sites, following 1553 participants and 769 controls.

The results were disappointing. After 3 1/2 years, girls in New Chance had gotten more high school certificates, but this did not translate into jobs, or even better reading scores. In both groups, about 75% had become pregnant again, and 75% were on welfare. And study participants actually showed more stress and depression than controls.

Experts say the results are consistent with other research. But they continue to differ on why most interventions have so little effect. MDRC's Robert Granger says that New Chance participation was so erratic—on average, the young mothers got only 3 months of services—that girls didn't get a proper "dose." He thinks it might have worked better if there had been an earlier emphasis on getting jobs. Yale psychologist Victoria Seitz says other research suggests that teens do better with more nurturing than they were getting in this program. But to Douglas Besharov of the American Enterprise Institute in Washington, D.C., the study is "another nail in the coffin" of the "nurturing" school of welfare reform and shows programs may be more effective if they are mandatory.

The next wave of welfare research may help show who's right. A new federal welfare act passed last year encourages states to experiment with sanctions to induce mothers on welfare to get jobs and not have more babies.

Antibiotic Basis for Spice Use

Herbs and spices flavor and tenderize meat, but they also serve a more evolutionarily significant purpose—killing contaminating bacteria, claims Paul Sherman, an evolutionary biologist at Cornell University in Ithaca, New York.

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Natural killers. Hot pepper, garlic.

Sherman and colleague Jennifer Billing looked at patterns of spice use in 4164 traditional meat recipes from 31 countries. Onion, black and white pepper, garlic, lemon juice, hot peppers, and ginger proved among the most popular. When they combed the literature to determine what herbs and spices had been shown to have antibacterial effects, they found that most are "really powerful antibiotics," Sherman reported last month at the annual meeting of the Animal Behavior Society in College Park, Maryland. Garlic, onion, allspice, and oregano killed all the bacteria they were tested against, including *Salmonella* and *Staphylococcus*. Others, such as hot peppers, destroyed at least 75% of their bacterial targets.

The researchers say their case is bolstered by the fact that the hotter the climate—and thus the more danger of food spoilage—the more spices are used in a cuisine. Conversely, some spices low in antibiotic properties, such as celery seed, are not much used in southern cuisines. Comments Zuleyma Tang-Martinez, an ethologist at the University of Missouri, St. Louis, "Most people think the only reason we use spices is because of the taste, but [Sherman] has gone beyond that."

J. SILVERMAN/IMAGE BANK

Battered brains. Dementia punch?

Boxer Genes

Boxers who carry a gene that adds to the risk for Alzheimer's disease may be predisposed to brain damage from the pummeling they get in the ring, according to a report in the 9 July *Journal of the American Medical Association*.

About one in six fighters over 50 have neurological problems, including cognitive impairment and behavioral changes such as loss of inhibition. In recent years, scientists have found that many have Alzheimer's-type brain features—neurofibrillary tangles and diffuse plaques created by abnormal proteins. Now it appears that a version of a gene associated with increased risk for Alzheimer's—the apolipoprotein E (*APOE*) ε4 allele—is more likely to be found in brain-damaged boxers.

Norman Relkin, a neurologist at the New York Hospital–Cornell University Medical College in New York City, and his colleagues obtained the *APOE* genotypes of 30 active and retired boxers, aged 23 to 76, and scored them on the Chronic Brain Injury (CBI) scale, which rates symptoms on a scale from 0 to 9. One-third of the boxers had at least one copy of the *APOE* ε4 allele. Among the high-exposure boxers—those who had been in 12 or more professional bouts—those with the allele averaged 3.9 on the CBI scale, while those without it averaged 1.8.

Relkin, who plans to expand the study to cover other sports, suspects that the *APOE* gene is important for cell repair, and cells with *APOE* ε4 may be less efficient at repair. "If this is confirmed in larger studies," says epidemiologist Walter Stewart of Johns Hopkins University in Baltimore, people can be screened and warned off sports where they're at risk of head injury.