

## Antibiotics Misused, 150 Scientists Say

A group of 150 scientists issued a warning on 4 August that microbes invulnerable to common medicines are gaining strength everywhere in the world because of the overuse of drugs such as tetracycline, ampicillin, chloramphenicol, and other antimicrobials. The warning, written by participants in the International Plasmid Conference, was released simultaneously this month in Boston, Mexico, Brazil, and the Dominican Republic. One of the chief objectives, according to a participant, was to engage Latin American scientists in this research and "give them ammunition" to use in combating bad medical practices in Central and South America, where the problem is worst.

Careless use of antibiotics creates an environment in which drug-resistant diseases may proliferate. Widespread, less-than-lethal application of the drugs kills off the weakest microbes and clears the way for drug-resistant strains. Resistant microbes, it has been learned recently, can pass along the capacity for resistance not only to their own descendants but to a variety of other organisms that are capable of accepting and using the genetic material that makes resistance possible.

The leading U.S. sponsor of the warning, microbiologist Stuart Levy of Tufts University, said that "while certain countries have regulations against the sale of these drugs without a prescription and against the inclusion of more than one drug in a single product, others, mainly developing nations, do not." Poor control in one country affects everyone, he said, because drug-resistant organisms "do not know national boundaries." Levy concluded, "Unless steps are taken to curtail the present situation, we may find a time when [antibiotics] are no longer useful to combat disease."

The statement identified five practices that should be curtailed:

- Dispensing antibiotics without prescription
- Using clinically useful antibiotics as growth promoters in animal feeds and on agricultural crops

- Prescribing antibiotics for ailments for which they are ineffective

- Misleading consumers by advertising antibiotics as "wonder drugs," especially in areas where dispensing is not regulated

- Using different labeling and advertising to sell the same product in different parts of the world.

In the United States, as in other developed countries, the use of antibiotics is fairly well controlled. The controversy here centers on the use of less than therapeutic doses of penicillin and tetracycline in animal feeds to promote growth. For nearly a decade the Food and Drug Administration (FDA) tried to issue regulations limiting the types and quantities of these drugs that are used in feeds. At the behest of animal raisers and drug manufacturers, Congress stepped in and effectively stopped the FDA from acting in 1978. The farmers argued that the FDA's proposed rules would do little to slow the spread of drug resistance but would cost them billions of dollars in lost income.

—Eliot Marshall

## Reagan Endorses Two More Synfuel Loans

After 2 weeks of hesitation, the Administration agreed to grant federal aid to two synthetic fuel projects that have been at the center of a Cabinet-level dispute over funding policy (*Science*, 14 August, p. 742). Secretary of Energy James Edwards wanted to finance both of these survivors from the Carter Administration's energy program. He had already won approval for a similar project on 22 July. David Stockman, director of the Office of Management and Budget, opposed all three. Stockman made his final argument against them at a meeting of the Cabinet's council on environment and natural resources on 5 August. The President listened, then sided with Edwards and with Congress, which was eager to have the plants built.

As a result, the Department of Energy has now agreed to give a loan guarantee worth \$2.02 billion to the American Natural Resources Company and three partners to build a coal

gasification plant in Beulah, North Dakota, and a guarantee worth \$1.1 billion to a subsidiary of the Tosco Corporation in support of a joint venture with Exxon to build an oil-from-shale plant in Garfield County, Colorado. The gasification project is due to begin production late in 1985, and the shale plant should be in operation a year later.—Eliot Marshall

## Medfly Redivivus

The Mediterranean fruit fly found new quarters last week in Tampa, Florida. Its visit there will be brief.

State agricultural officials found three Medflies—two males and a female—in a single trap during the first week of August, an indication that a sizable infestation might soon appear. One additional fly was discovered a week later, about two miles south of the original finding, causing state officials to mark off a 16-square-mile area for chemical treatment. Florida is seeking to ban imports from California on grounds that these flies or their parents rode into the state on California produce. No evidence sustaining that argument has been put forward.

This year's find marks the fourth appearance of the insect in Florida, the most recent previous visit occurring in 1963. Daniel Shankland, chairman of the entomology department at the University of Florida in Gainesville, says, "Because Florida has had a lot of experience with the Medfly, there won't be any foot-dragging here." He did intend to cast aspersions on California's handling of the problem. Ground and aerial spraying of the pesticide malathion began almost immediately in Florida.

Richard Foote, a U.S. Department of Agriculture entomologist at the Smithsonian's National Insect Collection in Washington, D.C., examined the first three insects from Florida and declared them to be genuine *Ceratitidis capitata*, or Medflies. In his opinion, they probably did not come into the state recently, but may have hatched from eggs laid by insects which may have come early in the summer from California or somewhere else. Tampa is a large international port, and the insects could have come from any

number of places. It is possible, Foote adds, that someone planted the flies in the trap deliberately "just to confuse the issue." There have been mysterious and unexplained fly-catchings in the past, suggesting that there may be a Medfly hoaxer in our midst.

Nevertheless, Foote says, the Floridians are perfectly right to suspect that California was the original home of the parents of these insects. And he mentions that growers in the Rio Grande Valley of Texas are also bracing for a visit from the West Coast.

—**Elliot Marshall**

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## Battle Renewed Over Coyote Poison

Environmentalists are worried that the federal government may reverse the 1972 ban on compound 1080, a powerful poison that has been used to kill the coyotes and wild dogs that prey on sheep and cattle.

In 1972, the Environmental Protection Agency (EPA) banned all predator control pesticides containing sodium monofluoroacetate (compound 1080), sodium cyanide, and strychnine after finding that the products, as then used, posed unreasonable risks to humans and wildlife. Bobcats, badgers, foxes, raccoons, vultures, hawks, and eagles were among the victims of the slow-acting poisons.

The National Woolgrowers Association and the National Cattlemen's Association, citing "emergency-level" losses from predators, have now asked EPA to consider re-registering compound 1080 for use in the form of a protective poison collar.

Russell E. Train, former head of EPA and now president of the U.S. branch of the World Wildlife Fund, has protested in a letter to Anne M. Gorsuch, head of EPA. "I see no benefit to the American people in reopening this costly process in an attempt to reverse a decade of evolving public land policy and progress in the field of wildlife management." Train contends that the livestock industry's economic difficulties are due to other factors and cites a 1981 Senate committee report on the industry's woes that does not even mention predation. The toxic collar has serious drawbacks, Train

claims, because if it breaks or is punctured, the poison can be absorbed through the skin of the animal wearing the collar. Train condemns compound 1080 as "a deadly, nonselective—and thus ecologically unsound—threat to wildlife." The World Wildlife Fund opposes its use on private or public lands.

The EPA held information-gathering hearings in late July as the first step in determining whether compound 1080 pesticides should be re-registered. Material submitted at the hearings will be reviewed by an EPA panel that will then make a recommendation to Gorsuch as to whether adjudicatory hearings should be held. The final decision rests with the EPA administrator.—**Scherraine Mack**

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## Caribbean Med Schools: Paradise May Soon Be Lost

The expanding ranks of ill-educated physicians who return to the United States after study in certain foreign medical schools "poses a real threat to the future quality of medical care in this country," according to a position paper released on 22 July by the Association of American Medical Colleges (AAMC). To curb the problem, the AAMC has called on accrediting agencies to radically beef up the exams that allow these students entry into U.S. medicine.

The number of U.S. citizens seeking certification from just one of these accrediting agencies, the Educational Commission for Foreign Medical Graduates (ECFMG), increased fourfold between 1970 and 1980, rising from 486 to 2155. Many of these medical graduates came from a handful of new Caribbean-based schools that operate for profit and predominantly cater to U.S. citizens (*Science*, 23 February 1979, p. 724). The General Accounting Office in 1980 released a study of six of these schools pointing out numerous flaws in their curricula, teaching, and facilities, and concluding that they "do not provide a medical education comparable to that obtainable in the United States." The GAO report is the raw material on which the AAMC relied in making its criticism of the proprietary schools. The AAMC

position paper, which will be published in the November *Journal of Medical Education*, is a first. Although the rise in Caribbean students has been a continuing concern for the AAMC, the association has been slow to take a public stance on the issue.

In one of its main recommendations, the AAMC calls on the ECFMG to expand its 1-day, 360-question examination to include a "hands on" evaluation of a student's clinical skills. With the current situation, the passing of this single exam is all it takes for a Caribbean-educated student to apply to U.S. graduate medical programs or for state certification. The AAMC notes that the current exam has only 60 basic science questions. In contrast, alien foreign medical graduates must pass a 2-day exam administered by the National Board of Medical Examiners which contains 950 questions, 500 of them in the basic sciences. Says the AAMC paper: "It is difficult to understand why U.S. citizens should be accorded certification on the basis of a lesser evaluation."

—**William J. Broad**

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## OSHA Reverses Itself On Infante Case

Thorne G. Auchter, the head of the Occupational Safety and Health Administration (OSHA), has scrapped a controversial proposal to fire one of the agency's scientists, Peter F. Infante.

Infante received a dismissal notice several weeks ago after he wrote to another scientist that formaldehyde was an animal carcinogen, a view widely held among researchers. Critics of the firing charged that in threatening Infante, OSHA was bowing to pressure from the formaldehyde industry (*Science*, 7 August, p. 630).

In a 7 August letter to Infante, Auchter said that he did not find sufficient evidence to substantiate the charges of insubordination and misrepresentation. Auchter went out of his way in the letter to say, "... I want to make clear that it is my policy not only to permit but to encourage full and free debate on OSHA issues."

—**Marjorie Sun**