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 *Ceratitis 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

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