

Pfizer attributes the better performance to differences in manufacturing procedures.

According to FDA Commissioner Dr. Herbert L. Ley Jr., his agency "has presented a set of standards for these products to all firms. The capsules that will remain on the market meet those standards." No new batches of oxytetracycline will be certified unless manufacturers can demonstrate ade-

quate blood levels with clinical tests.

The last major victory for brand-name producers in the equivalency battle was in 1967 when Parke, Davis & Co. in Detroit showed that its brand name antibiotic, Chloromycetin, was clinically superior to generic versions of chloramphenicol, again on grounds that the generics did not reach therapeutic levels in the patients' blood (SN: 12/9/67, p. 559). □

HURRICANE SEEDING

Shrinking Debbie's eye

Four months ago Hurricane Debbie was seeded with silver iodide crystals to help determine whether hurricanes can be modified (SN: 8/23, p. 153). Then the scientists went into a huddle with their data to sort out effects of their effort.

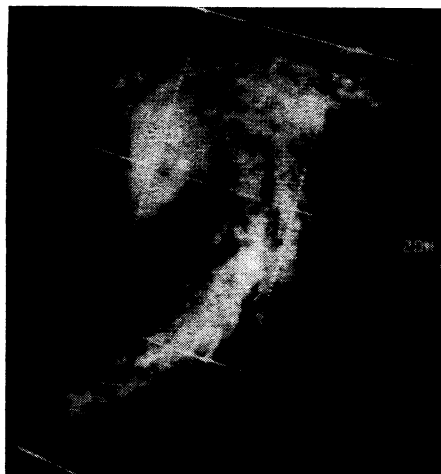
Last week the results were announced. The news was encouraging.

The scientific evidence, although circumstantial, strongly suggests that the seeding helped reduce the force of the hurricane.

Five hours after the completion Aug. 18 of the five aircraft-seeding passes, Debbie's winds had diminished 31 percent. A day later on Aug. 19, when no seeding was conducted, the winds intensified again, and five hours after the second day of seeding, on Aug. 20, the winds again decreased, this time by 15 percent.

This does not prove cause and effect, but it does indicate such a relationship.

Of past hurricanes studied, says Dr. R. Cecil Gentry, director of Project Stormfury, only about one in 11 has shown the rate of pressure rise in the hurricane's core that accompanied the reduction of winds in Debbie on the first day. And the drop in wind speeds on Aug. 20, though smaller, would not be expected in more than a half or possibly a third of the storms with no modification experiments, says



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Debbie: Man may have modified her.

Dr. Gentry.

"The data suggest we did modify the hurricane," he says.

Scientists of the Commerce Department's Environmental Science Services Administration hope to be able to say within the next two to four months whether the experiment did indeed cause the weakening of the hurricane's winds. By then they will have completed study of photographs taken from the ATS-III satellite and of radar pictures taken aboard the project aircraft. And they will have completed analysis of the pressure, temperature and

moisture measurements taken by the aircraft.

If the changes in Debbie were accomplished by the seedings, an advance of considerable importance will have been achieved.

Although the death toll from hurricanes in the United States has been steadily declining in the last half century as prediction techniques improve, their toll in property damage has been rising steadily as hurricane-prone areas become more built up. Damage in the years 1965-69 totaled an estimated \$2.4 billion in the United States.

The experiments on Debbie, says Dr. Gentry, "suggest so strongly that hurricane modification was accomplished" that further confirmation should be sought as soon as practical.

He says he won't be absolutely convinced until seeding on two more hurricanes produces results comparable to those with Debbie. Then he and others feel it would be proper to think about going after hurricanes routinely.

BREEDER REACTORS

Three plans approved

Earlier this year, the Atomic Energy Commission invited industry to submit proposals for the construction of a prototype liquid metal fast breeder reactor (SN: 6/14, p. 572).

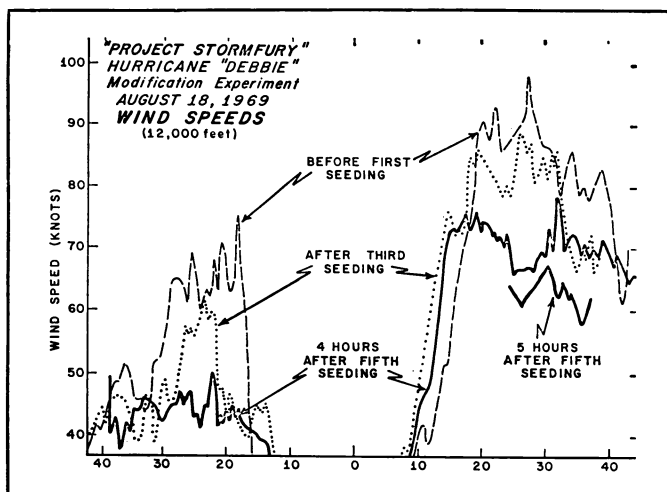
Last week, three semifinalists — Atomics International, General Electric and Westinghouse—had their plans approved.

Each of the three will receive \$1.3 million for the 12-month paper study to define the technical and economic risks for the total project. Based on the results, it is expected that one of the three will be selected to build a 300 to 500-megawatt demonstration plant sometime in the 1970's.

The concentrated efforts in breeder reactor development are being spurred on by the increasing concern about the size of uranium reserves, coupled to the high cost of power from natural reactors.

The total cost of the project definition phase, as it is called, is estimated at \$8.2 million. The remaining \$4.3 million the three companies will have to bear themselves, along with the more than 85 public and private electrical utilities associated with them in their efforts.

Although the three proposals submitted are for the same type of breeder reactor, there are significant differences in the features of the reactors proposed. For example, General Electric favors what is called a pot system, where the uranium core, the pump, the piping and heat exchanger are all in a big tank filled with sodium which



Debbie's winds, on both sides of the eye, weakened markedly after seeding.

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keeps the external parts of the system at a constant temperature. The sodium inside and out thus jackets the system.

In the other approach, which is favored by the other two companies, only the cooling pipes of the system contain sodium; air or inert gas cools the remaining exposed parts of the system.

Other variations showed up in the plans of the three firms. These included variations in the means of handling the fuel and in structures for containing radioactive effluents in case of an accident.

While the AEC was announcing acceptance of the proposals, those concerned were debating, at the American Nuclear Society meeting in San Francisco, how the liquid metal program should proceed. Question involved mainly the number of demonstration plants needed, and the rate at which they should be built. □

JOB SHIFT

Edwards for Ley at FDA

After 18 months in office as Commissioner of the Food and Drug Administration, Dr. Herbert L. Ley Jr. will be replaced by a surgeon who left practice in 1961 to assume managerial posts. Dr. Ley's successor will be Dr. Charles C. Edwards, hired originally to assist Dr. Roger O. Egeberg, Assistant Secretary for Health and Scientific Affairs in the Department of Health, Education and Welfare.

Ever since the Nixon Administration took office in January, Dr. Ley has come under fire for his handling of FDA affairs, and HEW Secretary Robert H. Finch has exerted a direct line of authority over the drug agency's business that is virtually unprecedented. At one point, he stepped in to reverse Ley's decision to issue an outright ban on Panalba, a combination antibiotic produced by the Upjohn Company in Kalamazoo, Mich. (SN: 5/31, p. 523). Subsequently, Finch retreated, but the Panalba issue remains unresolved, awaiting court action. FDA's performance in issues over food additives, particularly monosodium glutamate (SN: 10/4, p. 295) and cyclamates (SN: 10/25, p. 369) also raised doubts about Dr. Ley's effectiveness.

Dr. Edwards, a one-time assistant to the Surgeon General of the Public Health Service, worked in high administrative posts with the American Medical Association which he reportedly left because of disagreements with the AMA's conservative line. Most recently, he was a vice president for health affairs at Booz, Allen and Hamilton, a Chicago-based management consulting firm.

MEDICAL MALPRACTICE

Paying for error

Of the hundreds of liability insurance carriers, only 40 now write medical malpractice insurance. Claims and court awards are both soaring, and the insurers, as well as the doctors they cover, are growing wary.

The size of settlements has virtually skyrocketed. Awards have risen from a high of \$130,000 in 1960 to \$1.2 million in 1969. And, according to some estimates, the average award will be \$65,000 in 1970. Insurance premiums can run to \$10,000 a year.

Though a survey of medical malpractice lawyers suggests that only about 30 percent of malpractice suits have any merit, in a study issued by the Senate Subcommittee on Executive Reorganization, the chairman, Sen. Abraham A. Ribicoff (D-Conn.), says the evidence has convinced him that the majority of cases are justifiable.

The root of the problem seems to be the change in image of the physician from healer to businessman. According to an American Medical Association's Board of Trustees report, presented at the AMA clinical meeting in Denver last week, the growing complexities of life have made it impossible for the doctor to be a family friend, and the patient has a string of specialists whom he regards as impersonal businessman. According to the patient, says the AMA, today's physician refuses to make house calls, charges exorbitant fees and owns expensive cars and yachts. More informed on medicine, the patient knows negligence does exist.

The perhaps-unconscious attitude not only makes patients more willing to sue their doctors, but makes juries more willing to return a verdict, and one of considerable size, against doctors.

The problem appears to be one of improving the level of care, while protecting both the patient and the doctor. According to the House of Delegates, which took the subject up during its Denver meeting, if a physician's peers consider him fit to practice medicine, then it is up to the profession to share the financial risks through insurance premiums. To keep the government from reinsuring private carriers, the Board of Trustees is considering an AMA-sponsored professional liability program which would be underwritten by a pool of carriers and would involve state medical associations.

David M. Harney, a Los Angeles lawyer who has represented patients for 17 years, says part of the blame for the current situation can be attributed to the medical profession for allowing

negligent practitioners to continue in business. "Not a single physician in California has been disciplined after being sued—even successfully—for malpractice has had his license revoked," he told Ribicoff's subcommittee. Last year state boards of medical examiners revoked the licenses of 64 of the nation's 300,000 physicians, but another 59 whose licenses were ordered to be revoked were allowed to continue practicing.

The profession has not regulated itself, Harney says, and existing regulatory mechanisms for physicians and hospitals staffs are wholly inadequate.

One solution, suggested by Crawford Morris, a leading malpractice lawyer who defends doctors, is to bring all medicine under a clinic or hospital system where all doctors are salaried employees and the institution would be fully responsible for acts of its employees. Hospitals claim this could also reduce costs of patient care.

But, the AMA argues, this would put the practice of medicine under the control of persons who are not licensed physicians. The association suggests a plan where the patient is essentially bought off: that is, new insurance techniques would provide compensation for injured patients without the necessity of first establishing legal liability.

NEWS BRIEFS

Starfish; Moonquake

Immediate steps, including the use of divers armed with poison guns, to check the alarming erosion of Pacific coral reefs by the voracious crown of thorns starfish (SN: 9/13, p. 218) has been recommended to the Interior Department following an emergency study.

A study team under the direction of Dr. Richard H. Chesher of the biosciences department at the University of Guam, warned of serious economic and physical damage to Pacific islands if starfish populations remained uncontrolled. The team, in a report released this week, recommended the undersea attack as an interim measure until some biological means are found to reduce the burgeoning population.

Since the Apollo 12 astronauts sent their empty lunar module crashing back into the moon to make a shock for their seismometer (SN: 11/29, p. 493), seven other objects have apparently hit within 60 miles of the instrument.

In each case, says Dr. Gary Latham of Lamont-Doherty Geological Observatory, the apparent impacts were followed by a prolonged series of tremors, suggestive of the rumble of thunder echoing between clouds. □