

PUTTING PESTICIDES IN THEIR PLACE

In the recent announcements concerning the reorganization of the Public Health Service little mention was made of the whereabouts of a small but important program that was very quietly transferred from the National Communicable Disease Center, Health Services and Mental Health Administration, to the newly created Consumer Protection and Environmental Health Service.

The unit—the Pesticides Program—was placed under NCDC only 2 years ago. It was previously called the Office of Pesticides. But what matters more than its name or where it fits on Department organization charts is the job that it does: protecting the public from misuse of some of the most dangerous but beneficial compounds known to man.

Last year alone some 1,600 persons fell seriously ill and more than 100 died in three incidents involving flour contaminated by pesticides. All three incidents occurred outside the United States. This year 50 more persons were stricken and nine died in another incident involving pesticide-contaminated flour in Jamaica.

In disasters such as these, the program has provided assistance either directly or through the World Health Organization. The primary mission of the program is to determine the effects of exposure to pesticides on human health. The organization, under Dr. Samuel W. Simmons, provides assistance—usually in the form

of technical training, medical, epidemiologic or legal consultation or information dissemination—to state and local health departments. It monitors pesticide residues carried by the general population and monitors pesticides in the air, collects and disseminates vast amounts of information on the health aspects of pesticides, operates a toxicology laboratory in Atlanta, Ga., a pesticides research laboratory at Perrine, Fla., and another at Wenatchee, Wash., in 16 states conducts in-depth studies of people acutely and chronically exposed to pesticides, and advises the Department of Agriculture on health aspects of pesticide registration applications.

An incident which occurred last year illustrates the deadliness of some pesticides and the terrible consequences which can result from their improper handling. Personnel of the Pesticide Program acting as consultants to the World Health Organization took part in the resulting investigations.

At 7:45 a.m. on June 3 in Doha, the capital city of Qatar, a tiny country on the Persian Gulf, an 11-year-old boy was hospitalized unconscious, with spasms of the facial muscles, followed by a grand mal convulsion. He was the first of 300 patients brought into the hospital that day with these and other symptoms, including abdominal pain, nausea, vomiting, lethargy, and mental confusion. Within 2

days the total number of these patients reached 490. Seven of them died. Organophosphate poisoning was suspected.

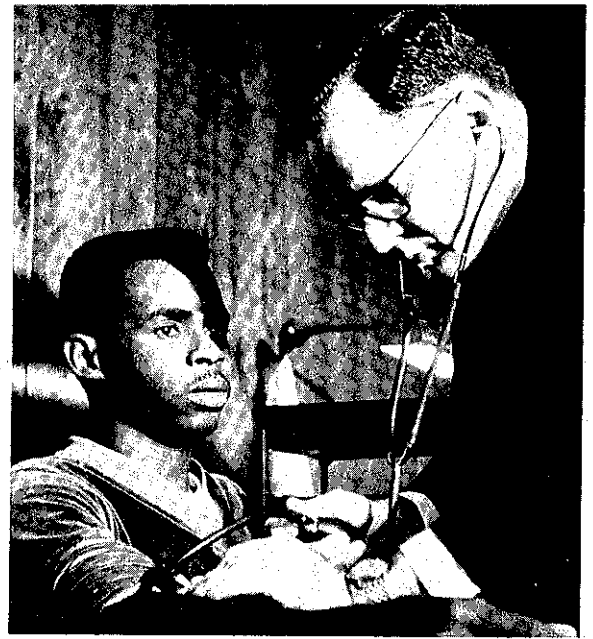
Because of the number of cases and their distribution throughout the city, the water supply system was first believed to be at fault. The public was told to stop drinking water, and inspections of the system were begun. Analysis of the water showed no abnormalities. The water was tested on animals with no ill effects. Interviews with the victims showed no relationships between the water supply and the illness.

Eventually, a common element was found among the victims. They had all eaten bread—most of them for breakfast—from the same bakery. The bakery owner and three of his employees were among the victims.

A check of the bakery led the investigators to believe that the bakery's bread had been contaminated by benzene hexachloride, an insecticide which the bakery used for insect control and as a rat poison.

All bakeries in Doha were shut down while authorities inspected each one to ensure there were no insecticides on the premises. Later they were allowed to open.

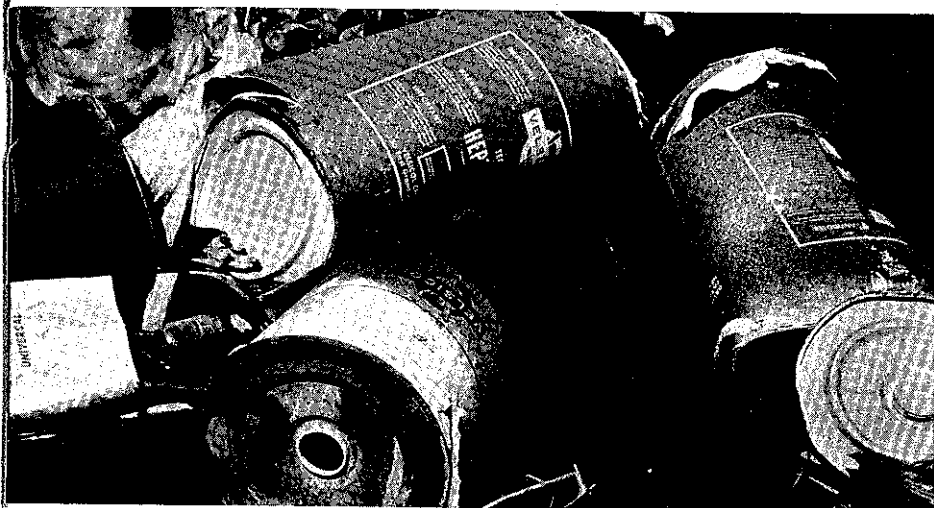
On July 2 the mysterious bread poisoning occurred again in Doha, this time in another bakery. A family of 13 persons, who owned the bakery, was brought into Doha Government Hospital. They had baked only



Clinical examination of pesticides worker (left) is carried out by community studies. Workers at pesticides formulation plants are kept under surveillance.

Storage of dangerous pesticides is major problem under study by the pesticides program.

Careless disposal of pesticide containers creates health hazard. Other environmental contamination occurs at houses located near the fields which have been sprayed.



enough bread for themselves that day, had sold none, and had eaten it. They exhibited symptoms similar to the ones of the victims of a month before.

The following night another flood of bread poisoning victims was brought into the hospital, 188 victims in all. Seventeen of them died. This time a third bakery was implicated.

Each of the bakeries had used the same brand of flour in preparing the bread. Further investigation showed that the flour, shipped in cloth sacks, had arrived in Doha on May 22 and been transported in one hold on a freighter from Houston, Texas.

The Pesticides Program's toxicology laboratory had meanwhile analyzed the flour and bread and found that they contained endrin, a pesticide. Endrin was also found in blood specimens taken from the victims.

The investigators in Doha, however, found that endrin had never been used in Qatar.

A check of the flour ship's cargo records cleared up the mystery. Some 10,000 gallons of concentrated endrin had been stored in 5-gallon cans in the hold directly above the contaminated flour. When the pesticide was unloaded in Iran someone noticed that 17 of the cans were leaking and two were empty.

Unfortunately, the bread poisoning incidents were still not ended. On July 14 in the city of Hofuf, in eastern Saudi Arabia the first of 183 poisoning victims began pouring into the hospital. Two of them died. The poisonings were traced to a single bakery and to a specific brand of flour, part of a shipment that arrived on June 27 at Dammam aboard a ship from New Orleans.

As in the Doha incident, more than 2,500 pails of endrin had been stored in the hold above the area where the flour was held. The sacks of flour were found to be contaminated by the cargo of pesticides. Saudi Arabian authorities impounded the remainder of the flour shipment.

The tragedies in Qatar and Saudi Arabia have resulted in precautionary measures to prevent a recurrence of similar incidents, the Pesticides Program says. In both countries, ships carrying foodstuffs are inspected before the cargo is accepted for delivery. Hazardous substances carried by the ship must be reported and inspectors review storage plans to determine where the substances were carried. In Qatar, the foodstuffs are brought ashore in three barges that are used for carrying food only.

While these incidents in the Middle East illustrate the awesome lethal hazards which pesticides introduce into the environment, there is another side of the picture. Pesticides comprise one of the factors behind the tremendous growth in modern agricultural productivity. Only 100 years ago it took four farmers to produce enough food for five persons. Today the output of one farmer is enough to provide food, cotton, and other fibers for 24 people. Making sure that this progress isn't bought at the price of illness or human life gives the Pesticides Program a sizable task in its new organizational position. ♦