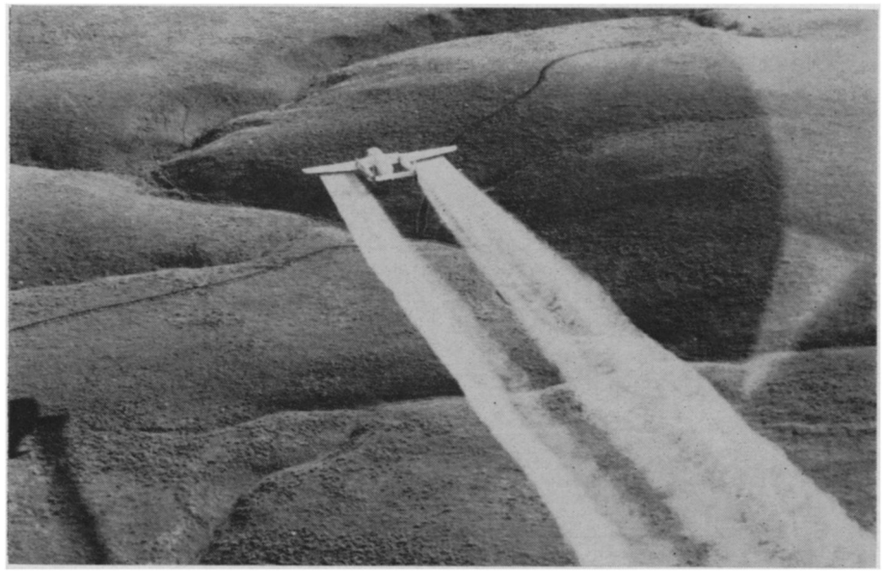
Reining in the bug killer

Governments on three continents work to curb DDT



Agriculture

DDT in wholesale amounts is beginning to meet official discouragement.

Once DDT (dichloro-diphenyl-trichloroethane) graduated in the early 1940's to being a pesticide instead of a mere laboratory curiosity, it lost little time in zooming to peak popularity. It was the first major organic pesticide, and nothing could touch it for potency and versatility against a huge variety of pests.

Though declining in popularity in the face of a barrage of new, more specialized chemicals, DDT still is synonymous with pesticides to most people and still is one of the most commonly used. Currently some 46 million pounds are used annually in the United States, with another 95 million pounds being exported.

For several years, however, concern has been growing about the residue of DDT that remains long after application. One of the poison's virtues is its permanence. It turns out to be so permanent, however, that it survives to be absorbed by the plants on which it is used, the animals which eat the plants, and the people who eat the animals.

The U.S. Food and Drug Administration plans to lower the permissible amount of detectable DDT residue in meat from the present level of seven parts per million to only one part per million by January 1, 1969. It has already tightened up the procedures required for any new pesticides to be registered, such as by requiring tests to be carried out on three instead of two generations of laboratory rats, and additional changes are in the works.

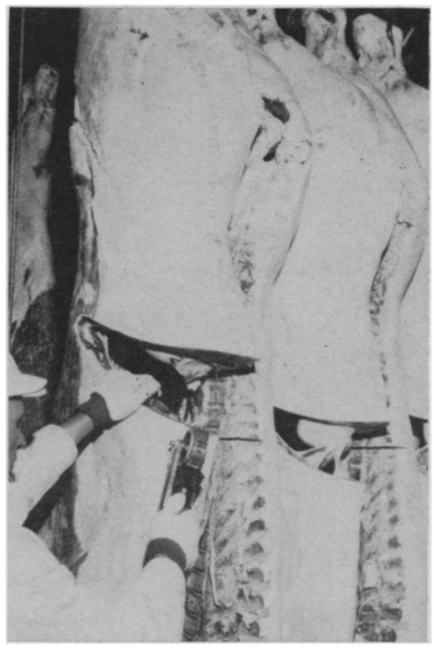
Australia is about to go even further. The country's National Council of Ministers of Agriculture plans to institute a nationwide ban on the use of DDT and other organochlorines on pastureland. There are already bans in several Australian states, including New South Wales, and a self-imposed ban by cattlemen on all uses of organochlorines will be in full effect by the end of this year.

Pesticide manufacturers have been told to label their organochlorines to recommend against use in pastures, and at least two Australian states are publishing lists of producers of alternative pesticides that leave no residues.

The chief impetus for Australia's action is concern over exports. "The problem throughout Australia is becoming somewhat acute," says New South Wales Agriculture Minister Geoffrey Crawford. "Our export markets of meat depend a lot on pesticidal residues, and it has been pointed out that we will have to reduce the amount of residues in milk, butter and meat. The level of DDT . . . is far too high."

Australia's residue limit is five parts per million, but officials there believe that if residues even approach that amount they could have a damaging effect on trade, particularly with countries such as West Germany and the Netherlands, which already have one-part-per-million limits.

Small countries such as the latter, however, face difficulties in enforcing residue limits that are not encountered in physically larger countries such as America. The route from slaughterhouse to dinnertable or export packing house is so short and quickly traveled that by the time complex analytical techniques reveal excess residues, the meat has been eaten or exported.



Agriculture

Residues in meat pose a problem.

According to Kenneth C. Walker, assistant deputy administrator for farm research of the U.S. Agricultural Research Service, Germany and the Netherlands for this reason can barely enforce their own limits. He says German beef has been received in the United States carrying residues over the one-part-per-million limit.

America, with its longer time to market for meat, will not be troubled by this enforcement difficulty.

For many products, says Walker, the United States already approaches or

equals the one-part-per-million mark. More than 95 percent of fruits and vegetables could already pass, largely because of precautions being taken by the growers. Foreign countries that import U.S. products, however, are not satisfied simply to have the U.S. reassure them that pesticide residues are well below the present seven-parts-per-million limit, as some heated debates at international conferences have shown. So, Walker says, the limit is being tightened up as assurance.

Many researchers believe that the organochlorines will ultimately go out of business in favor of biodegradable pesticides such as the organophosphates. A step in this direction in the U.S. is a bill by Senator Gaylord A. Nelson, Democrat from the dairy-rich state of Wisconsin, which would ban all interstate sale or shipment of DDT. So far the bill hardly has Congress's undivided attention, because of the lack of conclusive evidence linking DDT residues with physiological damage to humans.

The first worldwide recommended levels for pesticide residues are being worked on by a committee of the United Nations, but the process inches forward at such at rate that many countries are likely to have taken care of some of the difficulties with national standards before any international standards are set. ◇

MOON RACE

Zond 5: Sputnik revisited

By sending an unmanned spacecraft, Zond 5, around the moon and back to earth for a safe landing, the Russians have achieved another space first and upped their chance of getting a man on the moon before the United States does. The impact in the U.S. is a new lease on life for a competitive space race, but little chance that the upshot will be a boost in space spending. Dollars are too hard to come by.

Zond 5 was launched toward the moon from another vehicle in orbit around the earth on Sept. 15. Three days later it whipped around the moon and started home. This requires aiming the spacecraft to fly close enough to the moon—about 1,300 miles—so as to use the lunar gravity to draw it around the moon and then whip it back toward earth with increased velocity, but without using any on-board rocket power. On Sept. 21, the spaceship re-entered the earth's atmosphere and splashed down in the Indian Ocean, where it was retrieved by a Soviet ship.

The success of Zond 5 has caused the National Aeronautics and Space Administration to up its estimate of the Russian lunar timetable. The Soviet Union should be able to put a man on the moon "within the next 12 months or so," says Thomas O. Paine, newly named acting administrator of NASA.

The U.S. might still be first, but chances are slim. The earliest the U.S. moon landing could come is mid-1969. But to do this the next four Apollo flights—7 through 10—must be both successful and on schedule, a tall order, according to officials.

Apollo 7, scheduled for Oct. 11, will be an earth-orbit flight of 10 days. If 7 is successful, then Apollo 8, tentatively scheduled for December, will be either a circumlunar like Zond or a lunar orbit flight.

One of the factors that will determine whether the first U.S. manned flight to the moon—be it Apollo 8 or a later flight—is circumlunar rather than lunar orbit is whether the service module engine is working. Any spacecraft headed towards the moon can get into lunar orbit by following the proper course; to get out of lunar orbit and return to earth requires the firing of a large rocket—the service module engine for Apollo. Thus at some point before reaching the moon, Apollo astronauts will test the service module engine. If the engine does not work, then the spacecraft must follow the same circumlunar route as Zond 5.

If Apollo 7 and 8 are successful and on schedule, then Apollo 9 will go in March, 1969 and carry, for the first time, all the moon-landing equipment including the lunar landing craft LEM, which the astronauts will use in a later flight to descend from the main ship, in lunar orbit, to the moon and return. Apollo 9 calls for the LEM to be detached and flight-tested in earth orbit.

The date for Apollo 10 is unscheduled, but it could be the moon landing mission if all has gone well before it. The earliest Apollo 10 could go is mid-1969, which would put the U.S. on the moon ahead of the Soviets, based on the latest estimates by NASA in light of Zond 5.

Nevertheless, Zond 5 has greatly advanced the Russian lunar effort, and put NASA in the difficult position of having to produce flawlessly from here on out.

DUAL ADDICTIONS

Alcoholism compounded

Dual and triple addictions to chemical drugs are compounding the problem of alcoholism in the United States. Combined addictions are being seen chiefly in alcoholics under the age of 30, and include addiction to tranquilizers and stimulants, but not to narcotics or the psychedelic drugs.

The upshot is that while the country has yet to deal with the major public health problem of alcoholism, the nature of the problem has already changed.

This trend to multiple addictions will accelerate as more mood-changing drugs are developed, says Dr. Vernelle Fox, medical director of the Georgian Clinic and Rehabilitation Center in Atlanta, one of the nation's major alcoholism treatment centers.

"You rarely see anyone now under the age of 30 with a pure alcoholism problem," says Dr. Fox. That is becoming a phenomenon of the over-50 age group.

Evidence of the change emerged at the 28th International Congress on Alcohol and Alcoholism in Washington, D.C. Although the conference itself paid scant attention to drugs other than alcohol, a number of leading workers in the field believe that the treatment of alcoholism should be broadened to cover chemical addiction in general. Drugs being abused by young alcoholics include the tranquilizers, such as meprobamate (Miltown, Equanil), chlordiazepoxide (Librium) and diazepam (Valium), and stimulants such as the amphetamines, and the sedatives.

The multiple addictions have been masked in the past in part because of the way they show themselves. Withdrawal troubles from these drugs occur at different intervals, so that an individual may pass through one set of symptoms after another over a period of one to two weeks depending on how many drugs he has been using. A patient can be discharged after one set disappears, but before another emerges.

Dr. Fox is currently bringing together data on the problem of multiple addictions. She says she has evidence that Librium and related drugs are addictive, contrary to medical investigation which has failed, so far, to prove a physical dependence. Meprobamate has already been declared an addictive drug by the Food and Drug Administration; its withdrawal effects resemble those of the barbiturates.

Dr. Fox bases her material on study of about 1,500 patients admitted in one year for treatment of alcoholism at the Peachtree Hospital in Atlanta

Some 40 percent of the patients had addictive chemicals other than alcohol in their bloodstreams. Of these, less than half were taking the drugs for medication and, Dr. Fox believes, probably 10 percent were primarily addicted to prescription drugs, with alcohol an incidental problem.

Dr. Fox says she became aware that Librium is addictive only in the past