CHEMISTRY

New Insect Enemy Found

A cousin of DDT, methoxychlor is a better insecticide, and safe for man, animals, and crops. Only limited quantities are available commercially now.

➤ MAN'S CHEMICAL WARFARE against the insects has been reinforced by a cousin to DDT that doesn't poison man and animals and slays bugs untouched by other insecticides.

It is called methoxychlor. A Du Pont chemist, Dr. C. J. Krister, gave the first full report on this chemical that has now had extensive trials in actual use.

Predicting that it may find a place more important than DDT, Dr. Krister told the American Chemical Society meeting in Washington that methoxychlor is so safe that it can be swallowed by human beings and animals with little danger. Rats fed it in moderate doses over months suffered no adverse effects.

One of the major troubles wtih DDT has been the danger to animals, particularly cats and other pets, and the low toxicity of methoxychlor is allowing its safe use in controlling lice, flies and other insects that worry cows, pets and man.

The Mexican bean beetle, not adequately controlled by DDT and other similar compounds, is effectively killed by the new insecticide.

Beans, cucumbers, peaches, apples, grapes and other crops that might carry dangerous insecticides to the dinner table may be treated with methoxychlor without danger.

Cows, because fly-free, will give more milk without risk of getting chemical contamination of their milk when sprayed with methoxychlor. It is not picked up and absorbed through the skin and accumulated in the fat of beef cattle.

Flies are knocked down immediately by the new chemical, thus eliminating the need for imported pyrethrum which has to be used with DDT to put the insects out of commission promptly. Methoxychlor may become the chemical-of-choice in fly fighting.

Methoxychlor is the approved short name for the chemical whose full name is bis (*p*-methoxyphenyl) trichloroethane. Another Du Pont chemist, E. W. Bousquet, synthesized it in 1943 during a methodical search for a compound that was both effective in fighting insects yet safe for use around warm-blooded animals.

So far it has been available in limited quantities commercially under the trade name of Marlate as a wettable powder that can be worked up into a water spray. It costs somewhat more to produce than DDT but is not expected to be markedly more expensive to apply because it promises to be more effective in smaller concentrations.

Science News Letter, September 11, 1948

Annual Insect Bill

➤ FOUR BILLION DOLLARS is the size of the bill rendered the American people by insects because of their damage to crops each year, Dr. H. L. Haller and Ruth L. Busbey of the Department of Agriculture told the chemists.

This is considerably more than cost of food shipped abroad under the Marshall plan by ECA. (The total ECA expenditure authorized for its first year is slightly more than five billions.)

The government scientists appealed to farmers to increase their protective efforts against insects by use of chemical weapons.

Science News Letter, September 11, 1948

GENETICS

Seedless Watermelons

➤ THAT HAPPY IDEA which strikes most of us this season of the year—watermelons without seeds—has come true in the laboratory of a Japanese scientist.

Dr. Hitoshi Kihara explained how he has produced the seedless watermelons in his genetics laboratory at Japan's Kyoto Imperial University. His technique consists in scientifically tampering with the heredity of ordinary watermelons.

The watermelons are not entirely seedless, of course. But instead of the more than 500 seeds—count them sometime—in your watermelon, Dr. Kihara's melons may have only one seed. There also are some tender, white seed-like bits in the melon, but these are edible. And there are fewer of them than the seeds in usual watermelons.

"They are like the seeds which you eat in a cucumber," Dr. Kihara said.

The Japanese scientist visited Washington and delivered a lecture to U. S. Department of Agriculture scientists at nearby Beltsville, Md. He is returning to his laboratory after attending an international meeting in Stockholm, Sweden.

His seedless watermelons are not yet ready for the market, he pointed out. Though most of them are sweet and tender, some of the melons turn up sour and tough once in a while. In addition, Dr. Kihara hopes to make some improvements in his technique.

First step in producing seedless watermelons is to use a treatment with the chemical, colchicine. The heart of each cell of an ordinary watermelon has two sets of chromosomes, rod-shaped, heredity-bearing bits of protoplasm, the stuff of which the cells of all life are made. Colchicine retards the growth in such a way as to double the sets of chromosomes. This produces a watermelon with four sets of chromosomes in each cell nucleus.

The nearly sexless four-chromosome melon is then crossed back with an ordinary melon. From this is produced a three-chromosome melon, known as a triploid. Dr. Kihara's triploids may point the way toward the day when you can eat seedless watermelons.

Experiments to produce seedless watermelons have been reported previously, but Department of Agriculture officials said that no commercial seedless watermelons have been developed yet. They are following Dr. Kihara's experiments with interest and term them "promising."

The Japanese scientist is best known for his studies of the genetics of wheat. His studies of wheat chromosomes have helped explain the origin and development of modern wheat.

Science News Letter, September 11, 1948

NEW BREED OF WATERMELON ***—Dr. Hitoshi Kihara is shown here with reproductions of a normal melon and one that he has cross-bred to make it seedless. They are not yet ready for the market as improvements in technique have yet to be made to insure uniform results.***