AGRICULTURE

Venezuela Fights Insects

Scientists in Venezuela believe education on use of insecticides will in time beat the insects, ignorance and interests they now fight in their battle to control ravenous pests.

By HOWARD SIMONS
from Venezuela

➤ VENEZUELA'S battle against insect pests has also become a fight against the farmers' lack of education and commercial interests "out to turn a fast dollar."

The problems faced by scientists at the Government's Center for Agricultural Investigations, Maracay, Venezuela, are typical of those being faced by a major portion of the world today. Scientific developments are being dumped on laymen faster than instructions concerning how to use the developments can be given.

This is illustrated in the development and use of insecticides to rid Venezuela of ravenous insect pests. Scientists in Venezuela are more than familiar with the latest insecticides developed in the United States and elsewhere. The farmer is not.

As a consequence, the farmer faces a danger from two directions, both proving more deadly than the insects he wants to control on his farm.

The first danger is the farmer's own ignorance. Many of the newer insecticides are highly poisonous. Unless used properly, they can and do cause death. Each year, from 10 to 15 deaths in Venezuela are reported from the misuse of insecticides. The number of unreported or wrongly diagnosed cases is not known.

At the same time, more than 500 head of cattle die from the misuse of pest controls each year.

The same problem is faced by farmers in the United States, where rigid controls on insecticides are enforced.

The same rigid controls are being applied by Venezuelan scientists, but this is where the second danger becomes an important factor.

The Government recommends to the farmer a particular insecticide for the control of a particular pest on a particular crop.

The insecticide is not as deadly for insects as another, but it is also not as deadly for humans. Along comes a salesman to a small farmer with the more potent and unrecommended insecticide. He sprays some on the insects and they die before the farmer's eyes.

The farmer, in turn, disregards the recommendations of the Government scientists and uses the more powerful insecticide.

This often results not only in the death of the insect pests, but of the farmer too.

To combat these dangers and take the scientist out of competition with commercial interests, the Venezuelan Government is conducing an extensive farmer training program, but it is a long and hard pull. Scientists in Venezuela are optimistic and believe time will beat the insects, ignorance and interests.

Parasite Saves Sugar Crop

➤ A NATURAL INSECTICIDE has proved to be the only means of saving Venezuela's sugar cane from its worst insect enemy, the sugar cane borer.

The Amazon fly, imported from Brazil's jungles and bred in Venezuela, is the natural insect-killer that is doing the job of controlling the destructive borer.

The fly's larvae, parasites, feed exclusively on the larvae of the sugar cane borer. Scientists at the Center of Agricultural Investigations, Maracay, Venezuela, have put this unique feeding habit to work saving the cane.

Annually, they release controlled amounts of the Amazon flies, bred at the center, in fields infested with the borer. The flies deposit their live young in the borer's tunnels in the cane stalks. The baby flies then proceed to feed on the borers' larvae which have been chewing away at the cane unmolested.

Five years of laboratory tests and field use have shown that the Amazon fly can control the borer, whereas man-made insecticides fail.

The natural insecticide has proved so effective it almost works too well.

Where the fly is too successful in wiping out a borer infestation, there is an upset in the balance of nature, Dr. Fernando Kern, head of the Center's department of pests and diseases, explained.

Dr. Kern has found that when the Amazon flies reduce a borer infestation below four percent, there is a borer population explosion the following year resulting in 20% infestation. This is because the fly literally starves itself to death by destroying its own source of food.

Where the borer infestation is kept at five percent, it is an effective control and the borer population does not explode.

In 1949, when the fly was first introduced into Venezuela, 20% of the sugar cane was infested. More important, however, each stalk was so badly chewed that it was worthless. Today only five percent, or the safe limit for control, is infested and, Dr. Kern pointed out, the infested stalks can be used.

Science News Letter, December 8, 1956

PUBLIC HEALTH

Outbreak of Anthrax Reported in Wyoming

➤ ANTHRAX, a killing disease that humans can get from animals, has attacked cattle in the Wyoming mountain area, the American Veterinary Medical Association reports.

The epidemic broke out among 11,000 cattle in three national forests this past summer, killing many of the animals. Fortunately, this did not cause any related increase of the disease in humans, the U. S. Public Health Service said.

Anthrax, a disease known for centuries, is caused by a small living organism, *bacillus anthracis,* which usually feeds in animal tissue and causes death by invading the blood stream. It is passed on to man by handling diseased cattle and their products, such as wool, animal hair, hides and skin.

Prevention of the disease in humans centers around suppressing the infection among animals carrying it. Present day treatment for human anthrax includes an antitoxin, sulfonamides and penicillin and other antibiotics.

The Wyoming outbreak was controlled by the burning or deep burial of all infected carcasses. Suspected animal carriers were separated from the rest. In the spring, all animals returning to the forest ranges will be vaccinated.

Science News Letter, December 8, 1956

BUG-EYED PLATFORM—Britain's Gloster Javelin, all-weather fighter designed as a guided missile platform, is equipped with the latest radar for day and night operation. A tail view of the Javelin gives it a bug-eyed appearance.