

ENTOMOLOGY

Insects on the March

Damage from bugs increases while man fights back. Their diet ranging from cotton to fruit, these insects eat more than 10% of each year's food crop.

By SAM MATTHEWS

► INSECTS this year will do more than four billion dollars damage in the United States.

They will take one bite of our food, the first bite, for every nine that humans take. They will ruin whole forests and fields.

Farmers and scientists will fight back with planes, poison gas, fire and deadly fogs. But odds are on the bugs this year. Government experts expect serious trouble. They say millions of eggs normally killed by cold have survived the mild winter.

On the Western plains, grasshoppers. In the corn belt, the dread European borers. In the South, boll weevils. Other insect pests are gorging themselves in the fruit orchards of the Pacific Northwest, gnawing through Virginia tobacco, tunneling with gusto into New England potatoes and apples.

In the past ten years, the U. S. Department of Agriculture estimates, annual national loss to insects has risen from \$3,000,000,000 to \$4,000,000,000.

This was despite development of such potent new insecticides as DDT, benzene hexachloride (known to farmers as "666") and methoxychlor, a super-DDT which is non-poisonous to men or animals. Foreign parasites have been imported to feed on insect pests. Bacteriological warfare—fighting insects with disease germs—is being tried by University of California scientists. Rigid quarantines, fumigation, poisoned bait, burning wheat fields, plowing under larvae-riddled cornstalks—all these are among man's weapons.

A Bad Year in 1950

Yet the Agriculture Department has issued a warning to farmers early in the spring: brace yourselves, this will be a bad year.

Huge numbers of grasshopper eggs were found in surveys last fall. Chief threat appears to be in Montana, North Dakota and Wyoming. But epidemic swarms may appear from Texas to Canada and west to California.

Losses to grasshoppers on farmland and ranges were the highest last year since 1939. Conservative estimate for crops alone was \$27,500,000, Agriculture said. It would have been many times that figure but for an all-out sowing of poisoned bait from low-flying planes. The program saved about \$55 for each dollar spent, the Bureau of

Entomology reports. Chemicals known as chlordane and toxaphene were new weapons.

European corn borers spread into 145 more counties in the United States in 1949. Now infested by this flesh-colored worm: 1312 counties in 29 states. Moving slowly westward, the corn borer destroyed nearly \$350,000,000 in crops last year—four times the number of bushels of corn ruined the year before.

"The pest will do even more damage in 1950 if weather is favorable," the Agriculture Department warns.

Farmers have been battling the corn borer since it arrived in this country in 1917. They plow under corn stalks, burn them, spray them with DDT and even the deadly poison parathion. Still the borers' numbers increase.

Boll Weevil in Full Force

Third pest expected to attack in record strength is the cotton-destroying boll weevil. After a "successful winter", record numbers of the dread weevils were hatching this month—they may top the 1949 plague figure of \$470,000,000.

Wheat ranchers search for telltale signs of the greenbug. In the early 1940's they licked an invasion of the wheat-eating Hessian fly by burning grain fields. They do not like the memory. But the greenbug aphid has already caused serious losses in the winter wheat crop. It may run rampant as far north as the Dakotas later in the summer.

These are the crop pests which the Department of Agriculture deems most dangerous for 1950. There are about 600 major pest species on its lists. Dr. Charles T. Brues, Harvard entomologist, estimates that nearly half of the 800,000 known insect species in the United States feed directly on plant tissues.

"More than 10% of each year's food crop goes to insects," he says.

The pink bollworm feeds on cotton, the green peach aphid on tobacco. The golden nematode likes Long Island potatoes. There are the pear psylla, sweet potato weevil, Mexican and Oriental fruit flies. The latter invaded Hawaii from Saipan near the end of World War II. Desperate steps are being taken to keep it from U. S. shores.

In forest areas, where rangers protect a vital U. S. crop, Agriculture Department C-47's lay acres of insecticide fog. They fight the spruce budworm in Oregon and

Washington, pine bark beetles in Wyoming, gypsy moths on Cape Cod.

Entomologists believe they could eventually stamp out any variety of insect pest if they had funds for an all-out war. By soil poisoning and the so-called "milky disease" they can massacre the Japanese beetle. In Florida in 1929, a one-year blitz against the Mediterranean fruit fly blasted that dangerous invader off its beachhead completely. The cattle fever tick, once costing uncounted millions in livestock losses, has been virtually eliminated.

Complete Riddance Impossible

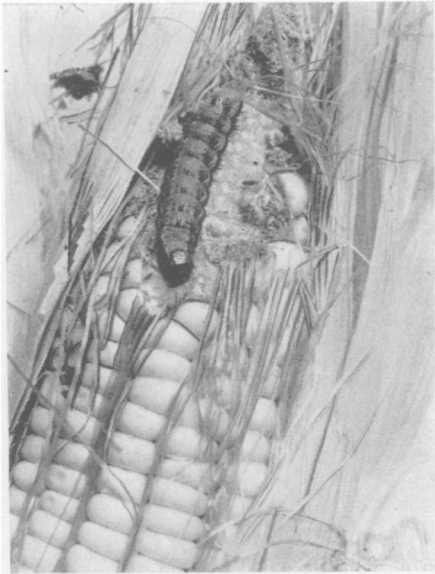
There are reasons they cannot rid the U. S. of all its pests: 1) It would cost billions; 2) There is the danger of poisoning crops themselves; and 3) They might kill insects which are the friends of man.

Bees and other insects carry the all-important pollen to many plants. But wild pollinating insects have virtually disappeared in many localities after new insecticides have been used. Crops compete for bees. The government is even experimenting with breeding pollinating insects to relieve the shortage.

Only in the case of major pest threats does the government itself enter the eradication battle. It contents itself with research, information services, promotion of the natural enemies of insect pests and quarantines



GRASSHOPPER GANGSTER — One of the ringleaders of the insect gang which will rob the nation of four billion dollars in 1950, the grasshopper, in closeup, with his cohorts can ruin entire fields of wheat or pasture ranges in a single day.



CHOMPING PEST—The corn earworm and European corn borer will ruin many a succulent ear of corn during the summer months.

between states and countries. County farm bureau agents advise the farmers how to meet the pests.

Against their best efforts, the bugs gain here and there. Over the nation this year, the loss will be close to the amount of Marshall Plan aid sent overseas. Farmers, then the public, will pick up the check.

Science News Letter, July 8, 1950

SOCIOLOGY

Do Non-Drinking College Girls Get More Dates?

➤ COLLEGE girls who do not drink have more dates than college girls who do drink—at least at the University of Rochester. This is in contradiction to findings of a survey made two years ago at the Pennsylvania State College, where the drinking girls had more dates than the non-drinkers.

At the University of Rochester, non-drinkers had an average of two and one-third dates in a two-week period, while drinkers dated an average of one and one-quarter times in the same period.

These figures were revealed in a survey conducted recently at the University of Rochester under the direction of Frederic C. Berezin, instructor in sociology, and reported by him and Norman R. Roth in the QUARTERLY JOURNAL OF STUDIES ON ALCOHOL (June).

A sample of 383 girls was used, 48 of whom did not drink and 335 of whom did.

The study also disclosed that, at the University of Rochester, drinkers and non-drinkers became engaged in about the same percentages. Two years ago, at Penn State

it was found that non-drinkers had the edge over drinkers in making a permanent attachment.

The Rochester study also found that sorority girls drank more than non-sorority girls on both dating and non-dating engagements. Another finding was that out-of-town girls who live in dormitories drink more than Rochester girls who have homes to go to.

The authors concluded that the findings of the investigation "raised more questions than they answered."

Science News Letter, July 8, 1950

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MEDICINE

40 to 80 Cataract Cases In Atom Bomb Survivors

➤ ABOUT 40 certain cases of cataract and an additional 40 suspected cases have been discovered in atom bomb survivors by the Atomic Bomb Casualty Commission.

These make up the first evidence of the delayed effects of the atom bombings at Hiroshima and Nagasaki. Survivors have apparently recovered from the acute or immediate effects, such as loss of hair, temporary infertility and blood changes, the ABCC reports to the National Research Council and the Atomic Energy Commission in Washington, D. C.

The 80 certain or suspected cases of radiation cataract were discovered in a survey of 1,000 persons most of whom were within 3,000 feet of the point above which the bomb exploded. The survey was made after discovery of radiation cataracts among research workers in the United States who had been exposed to radiation similar to that released in an atomic bomb burst.

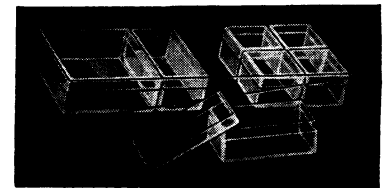
In the search for possible other delayed effects of the bombing on either survivors or their children, some 35,000 births have been investigated, a survey of 5,000 marriages has been made to determine the frequency of marriages between blood relations of varying degrees, about 2,800 children (some exposed to the bombs and some not) have been examined and medical examinations of newborn babies are being made at the rate of 700 and 800 a month.

Much of the effort of the ABCC has been expended in learning more about the normal state of health of the Japanese people in order to have a baseline of abnormalities occurring without atom bombing for comparison with those occurring in survivors of the bombings.

Science News Letter, July 8, 1950

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