

ENTOMOLOGY

Treat Cotton Seeds to Kill Spring Insects

► COTTON seeds can now be treated so that, after they germinate, early-season insects feeding on the cotton plants will be killed.

The newly developed cotton seed insecticide, named Thimet by the American Cyanamid Company, its producers, has been approved by the U. S. Department of Agriculture and is being produced commercially. However, the insecticide will be sold this year to seed treaters in Mississippi and Texas only. The product will be made available in all cotton growing regions of the United States in 1957. Distribution to several foreign countries is also planned.

The insecticide is expected to eliminate the early season spraying and dusting which has been necessary up to now. Thimet remains in the cotton plant and continues to kill insects for up to seven weeks after the first sprout has appeared.

Experiments are being conducted to increase protection time.

Science News Letter, April 14, 1956

GENERAL SCIENCE

British to Drop A-Bomb in South Australian Desert

► THE FIRST ATOMIC BOMB ever to be launched from a British aircraft will be dropped in Australia in November.

The bomb will be dropped from a Valiant bomber, which is reported to fly more than 700 m.p.h. Valiant bombers have been flying for six months developing bomb-dropping techniques at the Woomera ballistics range.

The British Commonwealth will stage two series of atomic tests this year, one at the Monte Bello islands, off West Australia, in April, and later this year at Maralinga, the new \$12,000,000 permanent testing range.

Reports until now were that British scientists would be testing an "atomic trigger." The "trigger" is the firing device for the hydrogen bomb.

Although atomic bombs have been used to generate the necessary heat to "trigger" the hydrogen bombs so far exploded, there has never been any explicit statement that an atomic bomb would be used in the Australian tests.

Last year supply minister Howard Beale indicated Britain's atomic tests on the Australian mainland this year would be with the atomic "trigger" of a hydrogen bomb. At that time he denied reports that Britain planned to explode an H-bomb in the tests, but said that the experiments planned could be useful in the development of a hydrogen bomb.

Australian and British members of Parliament will see the atomic explosions in Australia later this year. It will be the first time parliamentarians have been per-

mitted to see atom-bomb tests.

The tests, fourth in Australia, will be held at Maralinga, 500 miles west of Woomera. Sir William Penney, leader of the British scientific team, will try out some altogether new devices.

Canadian experts, scientists and servicemen will take part in the Maralinga tests.

Science News Letter, April 14, 1956

ICHTHYOLOGY

"Strange" Fish Fools Fishermen

► EXPERIENCED Chesapeake Bay fishermen have been baffled this spring by what they thought was a strange, new species of herring.

The fish, it turns out, are glut herring with immature roe.

The glut herring have been appearing along with the regular catch. Although they constitute most of the herring caught in Chesapeake Bay, glut herring normally do not appear until later in the season when their roe are fully matured.

William H. Massmann, fisheries biologist at the Virginia Fisheries Laboratory, Gloucester Point, Va., has examined a number of the fish and said definitely they are glut herring.

"These glut herring with immature roe are so long and thin that they are mistaken by some people for a different kind of fish. Usually they do not appear in great abundance until late April and May, when, as their name implies, they often glut the market," Mr. Massmann says.

Science News Letter, April 14, 1956

PSYCHOLOGY

Harshness of Teacher Comes With Experience

► IF your little boy comes home from school with the complaint that his teacher is "tough," he may be right. But the fault may not be with the personality of the teacher; it may be a result of her contact with her pupils.

The young, inexperienced teacher newly graduated is gentle with her pupils, Dr. Maurice F. Freehill of Western Washington College of Education, Bellingham, Wash., reported to the Western Psychological Association meeting in Berkeley, Calif.

During the first ten years of teaching the teacher becomes harsher. The veteran with more than ten years experience mellows and is milder than the younger teacher, Dr. Freehill found.

High school and elementary teachers are harsher than junior high and primary teachers.

Results on personality tests were not related to harshness except for extremes. Teachers who are quite maladjusted are inclined to be harsh. Dr. Freehill's conclusions are based on study and tests of 445 teachers.

Science News Letter, April 14, 1956

IN SCIEN

MEDICINE

Smoking Tempo Fails To Affect Chemicals

► VARYING the tempo at which cigarettes are smoked does not affect the cancer-causing chemicals found in the smoke, Dr. M. J. Lyons of the Royal Beatson Memorial Hospital, Glasgow, Scotland, reports in *Nature* (March 31)

Dr. Lyons repeated experiments of other scientists who had found the cancer-causing 3,4-benzopyrene in smoke from cigarettes smoked in an automatic fashion with strictly regular intermittent smoking. But to make the smoking more like that in normal human cigarette smoking, Dr. Lyons varied the time for smoking an ordinary cigarette to between seven and 12 minutes. During the course of the smoking, two four-second draws were made.

He found "essentially the same" range of polycyclic hydrocarbons in the smoke, including the cancer-causing ones, as earlier scientists had reported and also some additional ones.

Besides the 3,4-benzopyrene, Dr. Lyons found 1,2-benzanthracene, which has been reported to have "medium" cancer-causing power.

What effect these two compounds, acting together along with two other benzopyrene-like chemicals found in the cigarette smoke, will have on the body is hard to assess, Dr. Lyons states. A wide range of effects, from blocking each other out to increasing the effect of each, is conceivable.

Science News Letter, April 14, 1956

STATISTICS

Home Accidents Rank With Auto's

► HUMBLE or not, there is no place like home for fatal accidents, it seems from figures just announced by statisticians of the Metropolitan Life Insurance Company in New York.

The death toll from home accidents in 1955 was almost twice that for work accidents and one and two-thirds times that for public accidents other than those involving motor vehicles.

Only motor vehicle accidents took a greater number of lives throughout the nation as a whole.

The four million non-fatal injuries in and about the home each year are three times the number of non-fatal motor vehicle injuries.

Falls, such as out of windows, off the roof, out of trees, out of bed and slipping on the floor, led in home accidents, accounting for about half the deaths.

Science News Letter, April 14, 1956

CE FIELDS

PHYSIOLOGY

Australian Navy Seeks Hints From Whales

➤ AUSTRALIAN navy experts are studying whale habits in the hope of picking up hints to make the use of frogmen and underwater warfare techniques more efficient.

The Minister for the Navy, Senator N. O'Sullivan, said the studies would also help amateur divers using breathing apparatus.

He said that a whale when harpooned could immediately dive for at least 500 fathoms and rise to the surface again.

Humans could rise only from a maximum depth of 150 feet without getting the agonizing "bends" caused by quick ascents.

Study of the metabolism, heart beats, general physiology and anatomy of whales might help to modify the limits imposed on frogmen and divers and eliminate "staging" of divers from great depths.

A group of 50 naval medical officers is studying whales and underwater medical problems. Results of overseas research are also being followed.

Science News Letter, April 14, 1956

BIOLOGY

Trace Tree Cancer Back To First Abnormal Cell

➤ A TREE TUMOR can now be traced to the exact single cell that first went wild in cancer 60 years ago. The season when disease first struck the tree can even be pinpointed as definitely as, for example, April, 1892.

Tracing the history of a tumor to its original cell cannot be done for animal and human cancers. It has been achieved in the case of trees by Dr. Philip R. White and associates at the Roscoe B. Jackson Laboratory, Bar Harbor, Maine.

They were able to do it by counting the annual rings of a tree cross section back to the first cell that became abnormal and from which the tumor developed.

The tree tumors studied have raged in an epidemic among white spruce trees along a narrow band of land on Mount Desert Island, Maine, and nearby coastal regions. The cause is a mystery. Injury by high winds and salt sea spray blowing in from the North Atlantic is a possibility.

Another possibility, for which there is as yet no evidence, is that a virus causes the tumors, possibly gaining admission through a wound in tree tissues already irritated by sea water.

The fact that other types of trees are not affected may indicate a hereditary suscepti-

bility. Something in the chemistry of white spruce cells, a chemistry under the direction of genes, may make it possible for the tumor-causing agent to affect these trees only.

Dr. White has devised a medium composed of pure chemicals in which tree tissues can be grown in test tubes. This medium contains the essential foods required by the tissues, usually a food composed of less than 30 well known chemical ingredients.

The scientists have found that the nutritional requirements of normal and tumor cells are different. Tumors require more or less of several nutrients than do normal tissues.

Dr. White's research is supported by the American Cancer Society, which announced the results so far.

Science News Letter, April 14, 1956

ENTOMOLOGY

Mysterious Virus Fatal to Army Worm

➤ A MYSTERIOUS VIRUS that is fatal to the lawn-ravaging army worm has turned up in Hawaii.

Entomologists of the experiment station of the Hawaiian Sugar Planters' Association, who discovered the virus in the bodies of dead army worms, said this is the first time it has been recorded anywhere in the world. They do not know its source.

The scientists are hoping the virus will spread. The army worm has continued to be a serious problem despite man-made counter measures.

F. A. Bianchi, the station's senior entomologist, reported the virus forms crystals in the worm's body fluids. The worm turns yellow and the merest touch will cause the body to liquefy.

Science News Letter, April 14, 1956

HORTICULTURE

Old Seeds May Still Produce

➤ GERMINATION of last year's seeds this spring depends on the kinds of seeds and the way they were stored.

Celery, lettuce, parsnip and onion seeds do not keep as well as bean, beet and tomato seeds, Cornell University seed analysts report.

If the seeds were stored in a dry, cool place during the winter, they will be much more likely to produce a good crop than if they were stored in a hot, humid kitchen.

Seeds can be tested by making a trial planting in a flower pot early in the season. If a large amount of seed is involved and if a large acreage is to be planted, it will pay to send a sample to the Seed Testing Laboratory at the Experiment Station at Geneva, N. Y., where it can be tested scientifically under carefully controlled conditions.

Science News Letter, April 14, 1956

PUBLIC HEALTH

Two-Day Fog Kills 1,000 in London

➤ A DENSE fog lasting just over two days killed almost 1,000 persons in Greater London this winter, Dr. W. P. D. Logan, chief medical statistician of the General Register Office reports in *British Medical Journal* (March 31).

The fog occurred during Jan. 4 to 6, 1956. It is the third major killer fog in London since 1948, Dr. Logan points out. The December, 1952, fog killed almost 4,000 persons.

Babies and the elderly were the chief victims in the 1956 fog. Bronchitis was listed as medical cause of the deaths.

Before 1948 only five "incidents" of increased deaths associated with severe fog could be found in London mortality records for the past 115 years.

The fact that three incidents have occurred in the past eight winters is "disquieting," Dr. Logan states.

Either the atmospheric pollution has become more toxic or there are more persons especially vulnerable to its effects, he suggests. He calls the thousand deaths this January a "stern reminder that this major public health problem has not yet been solved."

Science News Letter, April 14, 1956

ENTOMOLOGY

Tick Strain Resists Once Good Insecticide Control

➤ THE BROWN DOG TICK has now joined the ever-growing list of insects that have developed a strain resistant to insecticides.

A pest of dogs in both the home and kennel, the brown dog tick was thought to have been brought under control by the use of the insecticide, chlordane. A resistant strain, however, is now increasing rapidly in New Jersey, Dr. Elton J. Hansens of the Rutgers University department of entomology, New Brunswick, N. J., reported.

The failure of chlordane to control the resistant ticks necessitated studies of new control measures. These tests show that lindane, a close relative of chlordane, does kill the ticks and provide effective control, Dr. Hansens said.

Both insecticides are chlorinated hydrocarbons and experience with resistant flies has shown that, when a pest becomes resistant to one of these chlorinated hydrocarbons, it is likely to become resistant to the others.

"We can only hope," Dr. Hansens concluded, "that this will not be true with the brown dog tick. If, however, they become lindane-resistant, too, it will be necessary to seek other materials which will kill the ticks and not harm the dog on which they live."

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