

ENTOMOLOGY

Progress Made in Fight Against DDT-Resistant Flies

► PROGRESS IN the battle to find a new weapon against DDT-resistant flies is being made by entomologists at the University of California's Citrus Experiment Station in Riverside, Calif.

They have found ways to reactivate DDT by combining it with other chemicals. These combinations are known as "synergists," and they are expected to prove a potent weapon against flies that can now walk unscathed through formerly lethal doses of DDT.

The fly-killing property of synergists has been boosted from 50 to 200 times the effect of DDT alone on the average, resistant southern California fly, 1951 model, Dr. Ralph B. March of the California station reports.

About 100 different combinations have been tried, of which a dozen have shown promise. Although alone they do not kill flies, all the added materials are closely related chemically to DDT. Much testing, however, remains to be done on the new combinations, Dr. March cautioned.

Science News Letter, November 17, 1951

MEDICINE

Virus Hunt Will Assist Multiple Sclerosis Fight

► A VIRUS hunt is on at the Foundation of Applied Research in San Antonio, Tex. If successful, the hunt may give scientists the means for preventing and perhaps treating effectively a disabling nervous disorder, multiple sclerosis.

In charge of the virus hunt is Dr. James R. M. Innes. A grant of \$15,000 for the virus hunt has just been given by the National Multiple Sclerosis Society, New York.

The cause and control of multiple sclerosis are not known. According to one theory, it is caused by a virus. Dr. Innes hopes to prove or disprove that theory. If the theory is proved, and the virus identified, scientists may be able to conquer the disease.

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MEDICINE

New Anesthetic, Morphine Antidote Are Reported

► A NEW local anesthetic, a new chemical antidote to poisoning by morphine and other opiates and a drug to stop vomiting after operations were announced at the meeting of the American Society of Anesthesiologists in Washington.

The new local anesthetic is 2-chloroprocaine. It acts faster and results are longer lasting than with procaine, an older local

anesthetic. It was reported as "a very promising agent" for blocking pain nerve fibers in just one region of the body. Drs. Francis F. Foldes and Pearl G. McNall of Mercy Hospital, Pittsburgh, and the University of Pittsburgh School of Medicine reported on this one.

The new antidote, or antagonist, to opiate drugs is N-allyl-normorphine. Given to patients who had had large doses of morphine or demerol, it gave "dramatic" stimulation of breathing and circulation, Drs. James E. Eckenhoff, George L. Hoffman and Robert D. Dripps of the University of Pennsylvania Hospital reported. It can also counteract the effects in babies of the sedatives given the mothers in childbirth.

The anti-motion sickness drug, dramamine, reduced vomiting after operations 50%, Drs. Daniel C. Moore, LeGrande Anderson, Gordon Wheeler and John Scheidt of Seattle reported.

Science News Letter, November 17, 1951

GEOLOGY

Find 60,000,000-Year-Old Meteorites in Texas

► "CELESTIAL RAIN" that fell on our planet about 60,000,000 years ago is just now beginning to come to light, Dr. Virgil Barnes of the University of Texas told the Geological Society of America meeting in Detroit.

The distribution of "tektites," or meteorites, found near Muldeen, Tex., suggests that the stony fragments from space are weathering out of deposits laid down during the Upper Eocene period. Scientists are comparing these with meteorites of more recent origin.

Science News Letter, November 17, 1951

INVENTION

Warning Words Come From Surface of Road

► ACTUAL WORDS of warning will come to the automobile driver from the surface of a highway with an invention which brought Floyd J. Dofsen of San Francisco patent 2,574,090. Rights are assigned to Electric Manufacturing Company, Inc., of the same city.

Passing over special lengthwise panels set in the surface of the paving, audible words, such as "danger," "shoulder" and "crossing," will be heard inside the car.

These panels, or sound tracks as they are called by the inventor, have an undulating upper surface conforming to the shape of a predetermined sound wave. While set in the surface, the undulations lie above the road surface so that a vehicle traveling along the roadway cooperates with the irregular surface to produce an audible sound. The body of the vehicle acts as a sound box to give an understandable warning to the driver.

Science News Letter, November 17, 1951

IN SCIENCE

GEOLOGY

Southern Rockies Once An Island in the Sea

► THE SOUTHERN Rocky Mountain region was a large island in a sea about 250,000,000 years ago, Prof. Kenneth G. Brill of St. Louis University has found.

He told the Geological Society of America meeting in Detroit that the center of this island gradually sank down into the sea and that the sides were uplifted, forming two islands with a long narrow strait between them. This strait extended from what is now northwest Colorado to northern New Mexico. Shells of sea animals found in sediments of this area show that the sediment was deposited beneath the sea, brought down by erosion from the surface of each island. The sediments of the former trough were elevated to 10,000 or 12,000 feet above sea level when the Rocky Mountains were formed.

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MEDICINE

One in a Thousand Error In Mass Blood Typing

► A MISTAKE rate of one in 1,000 in blood grouping and of seven in 1,000 in Rh factor typing might be expected in a mass blood typing program.

Cost of the program, exclusive of voluntary contributions in work and equipment, may be 55 and one-half cents per person typed.

About three-fourths of the persons typed will carry tags showing their blood type, mostly in purse, wallet or on key chain.

These figures are from the Jackson, Mich., mass blood typing program carried on during the winter months of 1950-1951 under the auspices of the Michigan Civil Defense authorities. They are reported by Dr. Jacques H. Ahronheim in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Nov. 10).

"While an error in blood grouping might prove to be fatal," Dr. Ahronheim points out, "the immediate availability of blood types of potential recipients is likely to save many lives."

Disastrous results from incorrectly determined Rh factors, he adds, are "extremely rare."

Only grim reality in the form of a major disaster, military or other, he states, can answer the principal question . . . will enough lives be saved by a mass blood typing program to justify the expenditure of time, effort and funds.

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E FIELDS

PSYCHOLOGY

Mental Experience Compensates Brain Loss

► TRAINING AND experience in mental work can make up to a "striking" degree for loss of a large part of the brain cortex.

Experiments showing that this is true for monkeys were reported by Dr. Harry F. Harlow, of the Department of the Army, at the meeting of the National Academy of Sciences in New Haven, Conn.

Whether this is true for humans who have had a part of the brain destroyed by injury, cancer or strokes cannot be stated on the basis of the monkey experiments, which were designed primarily to get a better understanding of the functioning of the brain.

Dr. Harlow's studies were made on eight rhesus monkeys which for five years had been extensively trained and tested for ability to solve various problems. Four monkeys were operated on in a way that produced extensive damage on both sides of the brain to both frontal and posterior, or rear, association areas.

After the operations, the four monkeys were able to perform some discrimination tests as well as the unoperated monkeys. Their performance showed an efficiency which normal, untrained monkeys could not attain until after hundreds of trials.

Only on such a very difficult test for an animal as the oddity test did the brain damage show adverse effects. In this test, the animals must learn that when there are three objects, two alike and a third different, they must pick the different one, no matter where located, to get a reward.

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PUBLIC HEALTH

Bread and Water Diet When A-Bomb Strikes

► IT WILL be bread and water for New Yorkers for a week, if an atom bomb strikes that city.

The bread and water diet, plus milk for children and expectant and nursing mothers, is what the city fathers are counting on to tide the population through the first week after such an attack, it appears from a report by Dr. Robert S. Goodhart of the National Vitamin Foundation, Inc., and Dr. Norman Jolliffe, director of the bureau of nutrition of the New York City Department of Health, to the American Public Health Association meeting in San Francisco.

Enough nourishment to sustain life and morale for a period up to one week can

be provided by one and one-half pounds of bread daily, these scientists calculated.

Other cities might not be able to count on bread as the real staff of life in such an emergency. But in New York the location of bakeries, their actual and potential output and the organization and size of their distribution system are such that it is entirely feasible to depend on bread as the staple in any event short of a complete disaster.

New Yorkers are also being advised to market on a two-day to one-week basis rather than a daily basis and to keep on the "reserve" shelf in each home a supply of familiar and liked foods to be kept fresh by rotation through normal use. Suggested for this reserve shelf are dry skim milk, canned milk, canned fruit juices, canned soup other than clear soup, jelly, peanut butter or other spread for bread, and such main dish foods as spaghetti, baked beans, potatoes, corned beef hash, meat and vegetable stew.

Science News Letter, November 17, 1951

INVENTION

Patent System for Blind Plane Landing

► A PICTURE of the outlines of the airfield's runway will appear in front of the pilot's eyes, when bad weather obscures his view of the field, with use of a new invention which received patent 2,572,043.

Raymond J. McElhannon, Flushing, N. Y., has assigned his rights on the invention to the Defense Department.

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INVENTION

Anchor for Mine Roofs Will Help Prevent Falls

► FEWER FALLING roofs, the greatest cause of fatalities of miners in coal and other mines, are promised with an explosive anchor to hold the bolts firmly in place after once set. Roof bolting is the modern method of preventing the roofs in mines from falling. The method is already in use in many mines, replacing in large part the older method of using timbers to hold up the roof.

In the bolting method, steel rods are driven up into the roof, or inserted in drill holes, to hold the roof structure together. For best results the upper ends of these rods or bolts must be anchored in the rocks so that they will have sufficient holding power. This invention provides an expandable upper end on each bolt, within which an explosive is placed. After insertion, the explosive is detonated by electric means, thus forming the anchor.

This invention brought patent 2,573,880 to Robert Temple, Swissvale, Pa. Rights are assigned to Temple Velocity Equipment, Inc., Wilmington, Del.

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AERONAUTICS

Suction Surface on Airplane Wing to Reduce Drag

► POROUS SURFACES on airplane wings through which air can be sucked are proposed by aeronautical engineers in London. Experimental work is under way to determine if wings with such surfaces would be subject to less drag than the conventional wings now used. Suction-wing models have already been tested in wind tunnels.

The suction of part of the air in the so-called boundary layer next to the surface of the wing, it is thought, would prevent the turbulence that forms in the layer as it approaches the trailing edge of the wing and creates a heavy drag. The idea is similar to that proposed and experimented on by both British and American engineers in recent years of a slotted wing to accomplish the same purpose.

In this plan, porous metal surfaces would be set in the wings or this type of surface would be used for the entire wing and even the fuselage. The probable use will be strips of porous metal at critical places along the wing surface.

Science News Letter, November 17, 1951

MEDICINE

New Medicine for Migraine Is Best Yet Prepared

► A NEW medicine for migraine headache sufferers was announced at the meeting of the Southern Medical Association in Dallas.

The medicine is a combination of ergotamine tartrate, caffeine and bellafoline, all of which have proved somewhat effective, plus phenobarbital.

This new combination was termed the "best preparation so far" in a report by Dr. Robert E. Ryan of St. Louis University, St. Louis, Mo.

It is not yet on the general drug market.

The sedative quality of the new medicine may be the correct solution to the migraine problem, in Dr. Ryan's opinion, and bears out his theory that nervous tension is one of the great causes of migraine headaches.

The only side effect from the new medicine is drowsiness. This, Dr. Ryan said, may be beneficial because the migraine headache sufferer is near exhaustion. The drug is effective even when taken after the headache is well under way, although other drugs must be taken at the start of a headache to relieve the migraine type.

Dr. Ryan stressed the importance of a careful examination and complete diagnosis of the type of headache from which a person is suffering before any treatment is tried. When tension is a factor, the patient as well as the headache must be treated. The physician should help the patient find the cause of the tension. If it cannot be removed, then the patient must be taught to live with it without tension.

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