ENTOMOLOGY

Grasshoppers, Chinchbugs Held in Check by Weather

➤ PERSISTENT wet, chilly weather in the principal crop areas, which has had farmers worried all spring, has been a blessing in dripping disguise in at least one way: grasshoppers and chinchbugs, the two worst insect enemies of growing grain crops, have been held well in check. Both these pests require warm, sunny weather for their full development, and they haven't been getting it. Only in the Southwest, where there has been hot drought, have the 'hoppers been bothersome.

Both grasshoppers and chinchbugs might raise trouble if dry, warm weather were to come now, surveys by entomologists of the U. S. Department of Agriculture indicate. Last year's swarms of grasshoppers matured rather late, but prolonged warm weather in autumn gave them opportunity to lay about the normal number of eggs in the soil. Also, there were unusual numbers of chinchbugs that went into hibernation. Thus far, the eggs remain largely unhatched and the bugs are still inactive, and as long as the weather stays cool the situation will remain "as is."

Science News Letter, June 23, 1945

ASTRONOMY

Gases from Sun's Cloud Absorbed by Prominence

➤ GASES from one of the sun's flame-like clouds, thousands of miles above a group of sunspots, instead of being sucked into the sunspots, were absorbed by a neighboring prominence of fiery gases, Dr. Edison Pettit of Mount Wilson Observatory reported to the Astronomical Society of the Pacific.

Occasionally one member of a group of prominences, in which gases moved from one to another within the group, has been a rapidly-changing active prominence, but this was the first time on record, Dr. Pettit stated, when a cloud prominence formed out of gases in the corona high above a group of sunspots was known to be absorbed by a neighboring prominence. The large group of prominences was located between a sunspot group and a disturbed region where spots later developed.

The rosy cloud of luminescent hydrogen, helium and calcium probably lasted at least two days. After forming, the fiery cloud as a whole remained in the same position throughout the first day, only one part being known to move. During the second day, however, as part of the cloud floated toward the other prominence, its velocity more than tripled, increasing from about 11 miles a second to some 38 miles a second.

It is through studies such as this that astronomers hope eventually to discover the secret of the forces acting in and above the sun's surface.

Science News Letter, June 23, 1945

ASTRONOMY

Faint Comet Discovered By du Toit in Africa

➤ A NEW comet, named du Toit for its discoverer, has been speeding across the heavens during the past two months. The faint comet, discovered by a member of the Harvard Observatory staff at Bloemfontein, South Africa, has been watched by astronomers in South Africa as it traveled from the constellation of Leo, the lion, to Hydra, the water monster.

In April Harvard's South Africa station radioed that the tenth magnitude comet had been discovered on April 9. As the object was not found on plates of the region made at the Harvard Observatory, however, Dr. Harlow Shapley, director of the observatory, withheld announcement and wrote for confirmation.

Harvard has just received a second radio message, presumably in reply to Dr. Shapley's letter, stating that the new comet du Toit has been observed continuously for two months by both the Boyden station at Bloemfontein and the Union Observatory at Johannesburg. Dr. J. Jackson, director of the Royal Observatory of Capetown, has computed the approximate orbit of the comet which is now so faint as to be beyond the limit of the ten-inch photographic telescope.

Science News Letter, June 23, 1945

MILITARY SCIENCE

New Use for Surgical Masks Found by Marines

➤ THE MARINES have discovered a new battle use for surgical masks, the squares of cotton gauze that doctors and hospital staffs wear when performing operations and when working with patients who have contagious diseases. During the invasion of Iwo Jima, they used 5,000 such masks, supplied by the American Red Cross, as protection for nasal passages against irritating sulfur dust and volcanic ash which clouded the air over the strategic island.

Science News Letter, June 23, 1945

IN SCIEN

CHEMISTRY-BACTERIOLOGY

Chemical Stops TB Germs In Test-Tube Experiments

➤ DISCOVERY of a new anti-germ mold chemical that stops human tuberculosis bacilli in test-tube experiments is announced by Dr. Isadore E. Gerber and Milton Gross, of the Hudson County Tuberculosis Hospital in Jersey City. (*Science,* June 15.)

Whether the new substance will prove effective in treating tuberculosis is not stated in the scientific report, which covers only preliminary study of the substance. Penicillin, most famous of the mold anti-germ chemicals, has no effect on tuberculosis germs.

The mold from which the new substance was extracted has not yet been completely identified but is one of a group of Aspergillaceae, of which family *Penicillium* is also a member. The scientists are now striving to isolate and purify the active material in the mold extract and determine the growth conditions necessary for best yield.

Science News Letter, June 23, 1945

ENGINEERING

Glass-Enclosed Penthouse Gives Unobstructed View

➤ LIKE a greenhouse perched on top of a streamlined railway coach, a new glass-enclosed penthouse will give passengers an unobstructed view of passing scenery—looking up as well as sideways. The new addition to railway coaches is a raised compartment, built into the roof of the car, the top and sides of which are laminated glass.

The new idea in railway coaches, developed by General Motors engineers, goes into service this month on the Burlington Lines, adding the glass-top coach to the list of other vehicles that make use of glass to improve the range of vision of passengers, including glass-bottomed boats and glass-top taxicabs.

The air-conditioned penthouse is reached by a short stairway from the main coach compartment. It contains 24 deep-cushioned seats set high enough so that passengers' heads and shoulders are well above the train's roofline. The addition of the penthouse increases to 58 the seating capacity of the coach.

Science News Letter, June 23, 1945

CE FIELDS

ENGINEERING

Communication System Handles Three Services

➤ THE ARMY in its European campaign and the Pacific war has had a very versatile, compact and speedy radio communication system that can carry facsimile picture, telephone conversations and teletype messages all at the same time, Maj. Gen. George L. Van Deusen, chief of the Engineering and Technical Service of the Army's Signal Corps, revealed.

This very high frequency radio relay equipment, or VHF, as it is known for conciseness, has played an important part on every battlefront.

"It was just a matter of hours after the invasion of France before the commanders on the continent were in continuous radio contact with English stations over 100 miles away," Maj. Gen. Van Deusen explained, speaking as guest on the CBS program "Adventures in Science" directed by Watson Davis, director of Science Service. "Telephone messages were immediately followed by the transmission by facsimile of vital air reconnaissance information of military objectives."

Maj. Gen. Van Deusen quoted Gen. Omar Bradley as saying that "our rapid drive across France was dependent on a shoe string, and that shoe string was radio relay."

Science News Letter, June 23, 1945

ENGINEERING

Plastic Airplane Parts Win Hyatt Award

➤ FOR DESIGNING plastic airplane parts that saved weight and manufacturing time in fighting planes, William Iler Beach, chief plastic engineer of North American Aviation, Inc., Inglewood, Calif., was presented with the fourth annual John Wesley Hyatt award, carrying with it a gold medal and $1,000.

In the B-25 Mitchell bomber alone, Mr. Beach's process of curing and shaping phenolic laminated plastics saved 141 pounds of weight and 120 man-hours of labor for each airplane as compared with the metal process formerly used.

Postwar uses foreseen for the new plastics forming method include shipping containers for movie films, decorative tops for kitchen sinks, shoe stiffeners, chemical tanks and athletic equipment.

During the war the new laminates in addition to being used in airplane construction, have been used in ammunition boxes, chutes, hoppers, and nonmagnetic land mine covers.

To honor the founder of the plastics industry, who invented celluloid in 1867, the John Wesley Hyatt award was established in 1941 by the Hercules Powder Company.

Science News Letter, June 23, 1945

CHEMISTRY

Helium Gas Found Usable Instead of Air in Tires

➤ HELIUM, the exclusively American balloon gas, can be used economically to inflate the huge tires of passenger airliners, it has been found by engineers of the Consolidated Vultee Aircraft Corporation, in San Diego, Calif. Use of this gas instead of air saves weight and permits an increased payload.

Air required to fill the tires would weigh 180 pounds, as compared with 26 pounds for helium. Tests have proved that the puncture-proof tubes will hold the lighter helium gas at the required pressure. An ample supply of helium is available, as the government is now producing more than needed in balloons and dirigibles, and is releasing some for other uses.

Science News Letter, June 23, 1945

CHEMISTRY

Greenbacks Turn to Gold In South Pacific Area

➤ LETTUCE-GREEN paper money turns to gold in the jungles of the South Pacific, reports Lt. Charles E. O'Malley of the War Department. When banknotes first began coming back from the Pacific, the Treasury Department was startled by the appearance of "gold-backs" which have not been in circulation for over ten years. It seems that the bills are the usual green variety, but the humid heat and gases in the air had turned the green ink to a soft golden color.

Wear and tear on paper money is heaviest in the South Pacific, where the climate causes it to wilt, laminate, and discolor. The life expectancy of a dollar bill on Guadalcanal is about six months, as compared with more than two years of useful life in the United States. Finance officers report that it takes four times as long to count beaten-up bills.

Science News Letter, June 23, 1945

INVENTION

New Transplanting Tool Also Dusts Plants

➤ A NEW transplanting implement, that also gives the young plants a thorough treatment with insecticidal dust to protect them against pests in their first critical days outdoors, is the invention on which patent 2,376,970 was awarded to W. W. Keown of San Leandro, Calif. It consists essentially of an open-bottomed cylinder with a handle. Pushed over the young plant, it lifts it out of its growing bed with a block of soil around its roots. Pressed into place in the garden, it sets out the plant. A turn of the handle then releases a piston, which sucks in enough outside air to swirl a cloud of insecticidal dust out of a reservoir and thoroughly cover the foliage.

Science News Letter, June 23, 1945

CHEMISTRY

Purple Pears Harmless Unless Syrup Is Cloudy

➤ THE PINK and purple colors which sometimes develop in home-canned fruit are usually harmless. Apples, pears and quinces which may be pink, red, brown, blue or purple are all right to eat unless the syrup is cloudy, according to Dr. Charles T. Townsend, research associate in the Hooper Foundation on the San Francisco campus of the University of California.

Pigment-forming bacteria and yeasts, which cause spoilage in canned fruit, can easily be recognized by cloudiness of the syrup in addition to the color, and also by odor.

Science News Letter, June 23, 1945

GENERAL SCIENCE

Carty Gold Medal Given to Dr. William F. Durand

➤ THE CARTY Gold Medal of the National Academy of Sciences was presented to Dr. William F. Durand, veteran research engineer of Stanford University, who is now serving in the war effort as chairman of the division of engineering and industrial research of the National Research Council, and as a member of the National Advisory Committee for Aeronautics.

The Carty Medal, which carries with it a cash honorarium of $2,500, is awarded every other year to a person who has made noteworthy and distinguished contributions in any field of science.

Science News Letter, June 23, 1945