

PLANT-PHYSIOLOGY

Bigger, Better Pineapples Through Use of Hormone

► **BIGGER** and better pineapples through the use of plant hormones are the prospect offered in patent 2,428,335, by Dr. F. P. Mehrlich, plant physiologist with the Hawaiian Pineapple Company, Ltd., of Honolulu.

Properly timed application to pineapple plants of a suitable dilution of beta naphthoxy acetic acid or other synthetic growth-controlling substance, he says, results in a month's delay in fruit ripening, during which time the pineapple increases in weight by a pound or more. It also strengthens the stalk on which the pineapple is borne, and toughens the fruit's alligator-like hide, thereby decreasing damage in packing and shipping.

Science News Letter, October 11, 1947

ENGINEERING

No Atomic Power Electricity For at Least 20 Years

► **THE NATION'S** electric power industry officials are not worried about competition from atomic power for at least 20 years, an industry leader told Science Service.

Col. H. S. Bennion, a retired Army officer who is now managing director of the Edison Electric Institute, predicted that when atomic energy is harnessed for industrial use, giant new steam electric plants may use energy released from atoms to generate millions of kilowatts.

Smallest atomic-energy electric station will be on the order of the biggest stations in the world today in electric output, Col. Bennion predicted. But the men who are now planning power supplies for as far as 20 years in the future believe that atomic power, either to produce or replace electricity, is decades away, he declared.

"Best estimate we have is that there will be no atomic energy for electric power in the next 20 years," Col. Bennion stated.

Atomic energy power stations would pose many problems. They would have to be shielded to protect workers. A "poisoning" effect of atomic energy might make a unit unfit for use. Location of such a plant, and the supply and perhaps the allocation of fissionable materials are problems which must be solved before we can undertake to pro-

duce electricity with atomic energy, Col. Bennion explained.

When you flick a light switch in 1967, electric "juice" generated by today's type of steam or water power units will be flowing into the bulb, the industry spokesman forecast.

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CHEMISTRY

Metal-Strengthened Trees Damaged Less by Frost

► **TREES** internally strengthened with metal are not necessarily results of successful operations by tree surgeons; they are more often nutritional successes. J. F. Wischhusen of the Manganese Research and Development Foundation told the New York meeting of the American Chemical Society of some strange effects obtained by feeding fruit trees with the proper combinations of the so-called trace elements. Trees receiving manganese, cobalt, copper and iodine showed relatively little damage from frost. Trees deficient in manganese, copper, zinc and magnesium lost almost all their leaves and much of their fruit, and many of them showed severe limb splitting.

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METEOROLOGY-AERONAUTICS

Balloons to Report on Weather 18 Miles Up

► **SPECIAL** balloons now under development are expected to carry scientific instruments to an 18-mile height, the Navy revealed. The balloons will carry no crews. They will be made of a plastic material, and will be filled with helium gas.

Progress in the development of the balloons is reported by General Mills Aeronautical Research Laboratory, Minneapolis, where the work is being carried on for the Navy. Each is designed to carry 70 pounds of instruments, but in clusters of two or more will carry a greater weight.

The first flights will be conducted near Minneapolis, and possibly at the Naval Air Station, Lakehurst, N. J. The instruments will include various types for the detection of weather conditions, automatically reporting them to ground stations by radio. Other instruments will be cloud chambers for cosmic-ray investigations, neutron and proton counters, and various upper atmosphere research devices.

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IN SCIENCE

ASTRONOMY

Siamese Twin Stars Whirl in Contact

► A **PAIR** of Siamese twin stars, revolving around each other so close together that they are in actual physical contact, was reported to the American Astronomical Society by Dr. Olin J. Eggen of the University of Wisconsin's Washburn Observatory.

These peculiar stars eclipse each other periodically as they rapidly revolve. They are part of a double star system known as 44i Bootis. In a period of 219.5 years they together revolve around another star $4\frac{1}{2}$ billion miles away from them.

Contrary to what might be expected of two stars so close together, one of the eclipsing pair is more than twice the mass of the other. The smallest one is so faint that the only reason its spectrum is seen is that, because of the contact of the two stars, its light is reinforced by reflection from the brighter star.

The period in which the two stars revolve is less than one third of a day, but this appears to be increasing at the present time. Brightness changes are very rapid because of the eclipsing effect, and a photoelectric photometer has been used to follow them accurately.

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CHEMISTRY

Cheap Raw Materials Used To Make Synthetic Gas

► **LOW-GRADE** coal and lignite can be used as raw materials for synthetic gasoline without making use of costly pure oxygen, V. F. Parry and associates of the U.S. Bureau of Mines told the American Chemical Society meeting in New York. In their process, a double-walled retort is used, with the coal or lignite dumped into the space between inner and outer walls and treated with steam as it slides down. Retort temperature is raised to 1,900 degrees Centigrade. The steam and hot coal react to form the mixture of hydrogen and carbon monoxide, known as synthesis gas, which is the basis of the standard process for making synthetic gasoline originally developed in Germany.

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E FIELDS

BIOLOGY

Black Widow Spider Lays Eggs Upside Down

See Front Cover

► UPSIDE DOWN the black widow spider lays her eggs and protects them in a ball of white silky web. The photographs shown on the front cover of this week's SCIENCE NEWS LETTER were taken by Kenneth L. Middleham and were among the many beautiful pictures shown at the International Exhibit of Biological Photography in Rochester, N. Y., sponsored by Biological Photographic Association.

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MEDICINE

Sulfa, Salt and Plasma 'Complete Cure' for Cholera

► CHOLERA, now epidemic in Egypt, can be both cured and prevented by modern medical methods.

Use of sulfadiazine, blood plasma and salt solution to produce a "complete cure" was developed by U. S. Navy doctors during an epidemic in India in 1945.

First reported in Science Service dispatches and later in a Naval Medical Bulletin article, this treatment can assure the recovery of every cholera victim, Comdr. Julius M. Amberson found.

This new treatment undoubtedly will be used in Egypt as soon as it is realized that it is effective.

The sulfa drug attacks the comma-shaped cholera germs, while the plasma and salt solution restore the fluid lost through the diarrhea and vomiting of the disease and help keep the blood circulating adequately.

DDT might help check Egypt's epidemic, because flies can carry cholera germs from the body wastes of patients to food and water.

The Egyptians themselves can do much to check the further spread of cholera in their land while waiting for the plane-borne anti-cholera vaccine from this country to arrive and be distributed. Here are a few simple rules, good wherever a cholera epidemic breaks out:

1. Boil all water used for drinking, brushing teeth, washing dishes.

2. If you can't boil it, chlorinate it thoroughly.

3. Don't eat uncooked food of any description.

4. If you use ice in beverages, be sure it is made from boiled or chlorinated water.

5. Destroy all body wastes of cholera patients.

6. Wash your hands frequently and thoroughly, especially before eating and handling food.

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PALEONTOLOGY

New-Found Fossil Skeleton May Help Solve Old Riddle

► DID the "conies" mentioned by David in Psalm 104, and by his son Solomon in Proverbs 30, have ancestors 60 million years ago?

A recently discovered fossil skeleton from this country may help to answer this question, which has been a moot point among paleontologists for a long time. The skeleton is of an extinct mammal named Meniscotherium, and it is chief prize brought back from a summer's work in New Mexico by an expedition under the direction of Dr. George Gaylord Simpson of the American Museum of Natural History.

Because the new-found skeleton is nearly complete, it may solve the riddle of the possible kinship between ancient Meniscotherium and the modern hyraxes, which is the more exact zoological name for the Biblical "conies". Earlier specimens, which raised the question, are too fragmentary to answer it.

Meniscotherium was a long-bodied, long-tailed, short-legged creature from the lower Eocene, very early in the Age of Mammals. It was small—not over the size of a fox-terrier.

Even older are the fossils brought back by Dr. Simpson's colleague, Dr. Edwin H. Colbert. They are specimens of some of the earliest dinosaurs, dating back about 200 million years. They were not large but they were fierce, and their descendants 100 million years later were the formidable flesh-eating tyrannosaurs. First clue to a find of a dozen complete skeletons was the spotting, by George Whitaker, Dr. Colbert's assistant, of a small claw lying on the ground near the foot of a cliff.

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ENTOMOLOGY

DDT Scores New Triumph Against Powder-Post Beetle

► DDT has scored another triumph in the fight against insect pests, this time against the powder-post beetle that infests and damages bamboo wood, the prime structural material of the tropics.

Brushing the freshly harvested wood with a DDT-kerosene solution protects it from attack by the beetles, Harold K. Plank of the Federal Experiment Station at Mayaguez, Puerto Rico, reports. (*Science*, Oct. 3.)

Scarcity of eastern hemisphere bamboo because of the war and continued shipping difficulties makes protection of the western hemisphere bamboos, now available in commercial quantities, more than ever important.

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AGRICULTURE

First Modern Soil Survey Being Conducted in Japan

► JAPAN'S first modern soil survey is now being conducted by American scientists attached to the occupation forces, states Dr. C. L. W. Swanson of the Connecticut Agricultural Experiment Station. Dr. Swanson, as an Air Corps major, formerly headed research on soils and fertilizers on Gen. MacArthur's staff.

Better knowledge of Japanese soils is needed, he explains, to get maximum food yield out of the diminished Empire's limited arable acreage. Soil survey methods used by Japanese scientists in pre-war days resembled those formerly used in the United States but now considered obsolete.

Great quantities of fertilizer, both commercial and home-produced, were formerly used to get the maximum yield per acre out of Japanese fields. How Japan is to pay for such imports, especially of indispensable phosphates, is now a severe problem. Yet it must be done, if American exports of food to Japan are ever to cease without the country's becoming another famine land.

Despite the Jap farmer's reputation as a careful conserver of soil, some bad land practices have been found, Dr. Swanson declares. Some fields have been plowed up-and-down on the slopes, instead of being terraced, and their soil naturally has suffered badly from erosion.

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