MEDICINE

Fertility Vitamin E May Aid Weak Muscle Sufferers

THE FERTILITY vitamin E may come to the aid of patients suffering from muscular dystrophy, an ailment of muscular weakness and wasting, it appears from investigations by Drs. Nobuko Shimotori, Gladys A. Emerson and Herbert M. Evans of the University of California.

Guinea pigs that suffered from this condition as a result of a faulty diet were helped by the fertility vitamin, the California investigators have reported (*Science*, July 28).

"Human use of vitamin E has not yet been accomplished," Dr. Evans, discoverer of this vitamin, replied to a Science Service inquiry.

He did not say, however, that the vitamin would not be tried on human patients. The vitamin is found most abundantly in wheat germ, and is available in pure form as alpha tocopherol.

Science News Letter, August 12, 1939

METALLURGY

Tin Near Top on List Of Strategic Materials

NOW that surplus American cotton is to be swapped for British rubber from the East Indies, tin is near the top on the list of strategic materials still needed by the United States for wartime emergencies. Our nation needs stock piles of tin badly.

The average American yearly requirements for fresh new virgin tin amounts to nearly 75,000 tons, the new forthcoming issue of the *Minerals Yearbook* of the U. S. Department of the Interior will state. The average American production of tin, in sharp contrast, is only 100 tons. This tremendous difference represents amounts of tin that must be imported over wartime-dangerous trade routes from British Malaya and from Bolivia, Siam and China.

The major American use of tin is in the humble tin can vital for modern methods of preserving foods in peace and wartime alike. The tin can, it should be noted historically, had its origin in preserving foods for British Naval expeditions just about 100 years ago.

Equally vital, too, for peace or war is the use of tin in solder which joins the intricate electrical connections that make possible the wonders of modern radio, telephone and telegraphic communications.

Tin, too, is vitally needed for the transportation industry where babbitt metal—a tin alloy—is used time and again for bearings. Collapsible tubes for toothpaste and the like, and the tough alloy bronze are other important uses of tin.

Other nations, it is known, are laying in large reserves of tin. Soviet Russia, for example, acquired between 20,000 and 25,000 tons of the metal during 1937 and 1938. Sharp increases in tin shipments have also been made to Japan, Germany, Poland and Sweden. The only American reserve worth mentioning is that of the U. S. Navy which amounted to 2,190 tons as of March, 1939.

Completely out of the American picture, following exhaustive geological exploration, is the hope of establishing tin mining in the United States or in Alaska. A total production of 100 tons yearly is a mere drop in the tin bucket. Establishing tin smelters in the United States, too, is looked upon with but little favor.

Science News Letter, August 12, 1939

ENTOMOLOGY—AERONAUTICS

Insect Menace Endangers Proposed British Airline

AN INSECT menace endangers the aerial life-line that England is rather quietly planning to establish to India and Australia via Africa; fear of Nazi-Italian interference with the present Imperial air route through the Mediterranean makes an alternative airway highly desirable. Tucked away in the current batch of Letters to the Editor of London's *Nature*, is a scientific warning of wings over Africa—not wings of bombers but of tiny insects carrying disease.

"It would seem unwise to start an airline from or via Africa to India and Australia until the problem of control of insects in aircraft has been solved," writes Dr. F. G. Sarel Whitfield, entomologist of the Imperial College of Science and Technology, London.

Reason: Yellow fever exists in Africa. Mosquitoes carry it. These insects steal rides on airplanes. One infected mosquito might carry a plague to India worse than any human invasion could possibly be.

No theoretical warning is this. For four years entomologist Whitfield has inspected airplanes at Khartoum airport, finding 1,960 insects hitch-hiking on over 2000 airplanes including plenty of mosquitoes capable of carrying the dreaded jungle yellow fever.

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IN SCIENC

BOTANY

Honey Acts as Hormone To Grow Roots on Plants

CHEMICALS, phytohormones, make roots grow on cuttings of plants where none would grow before, even root "whiskers" on stems and leaves. For propagating plants hard, or hitherto, impossible, to raise from cuttings, these chemicals are a boon to gardeners and nurserymen.

Now from Ottawa's Central Experimental Farm comes news that honey, the sweet stuff that man robs from bees, acts as phytohormone. In careful tests by R. W. Oliver it was even better than a very successful commercial phytohormone powder preparation.

Most extensive tests were made on familiar varieties of chrysanthemums but evergreen tree cuttings respond also. Dilute honey with 3 parts water to one of honey. Stand the cuttings in this solution for a day and a night and then plant. Probably some hormone substances in the bee food pep up the root growth, just what is not known.

Science News Letter, August 12, 1939

AERONAUTICS

Breakwater To Be Built For Airliners at Horta

FAYAL Island's swells, current headache for transatlantic air clipper skippers because of the impossibility of taking off with a full load when they are rolling at this refueling stop, will soon be a problem no more. The Portuguese government will start this fall construction of a long breakwater enclosing an area on Horta Bay large enough for flying boats to take off and land inside.

The project will cost more than $1,000,000 and is coupled with the digging of a tunnel through the peak which makes up most of the island and which will enable speedier communication between the two sides of the island.

At present aircraft of Pan American Airways, American Export Airlines and Air France Transatlantique make use of five different landing areas, depending on weather conditions, all outside the rather small seawall.

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E FIELDS

STATISTICS

200 Deaths in a Year From Diving Accidents

BROKEN necks, fractured skulls, and other serious injuries received in diving accidents result in at least 200 deaths in the United States each year. In the case of 100 Metropolitan Life Insurance policyholders killed in diving accidents, 68 lost their lives because they failed to judge the depth of the water properly or did not estimate the depth needed for a dive correctly. They struck the bottom with considerable force and usually the impact resulted in a broken neck. The next most important cause, which brought about the deaths of 18 out of the hundred fatalities, was striking the head against submerged objects, mostly rocks. The other 14 deaths were caused by such unsafe practices as: Two persons diving simultaneously and striking their heads under water; diving too close to a dock guard and striking it; falling flat after a high dive; swinging from a diving board and hitting the head against the concrete side of the swimming pool.

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METEOROLOGY

Weather Forecasting in 1990 Predicted by Meteorologists

HOW will weather be forecast in 1990, fifty years in the future? This is what Dr. Willis R. Gregg, Weather Bureau chief, asked fellow meteorologists shortly before his sudden death last fall. He was preparing a presidential address for the American Meteorological Society that he did not live to deliver.

Greater use of the radiosonde, the robot observer carried aloft by balloons, is predicted in many of the replies from America's foremost meteorologists. The present Weather Bureau chief, Comdr. Francis W. Reichelderfer, then attached to the *U.S.S. Utah,* expected that floating radio robots would keep tab on the weather in open ocean spaces, flashing regular messages to allow charting of ocean conditions.

A promising future for consulting meteorologists, serving many businesses and industries, is also foreseen by Comdr. Reichelderfer, who feels that hundreds of concerns need individual weather advice as much or more than oil companies need geologists.

A new instrument, one that "feels" the weather like a person, welding temperature, humidity and wind movement into one value, is needed in the opinion of W. C. Devereaux, U. S. Weather Bureau senior meteorologist at Cincinnati.

If rockets become practical, they will be used to gather weather data from high in the atmosphere.

Agricultural forecasts that look forward weeks and months to allow the farmer to plan his plowing, planting and harvesting are foreseen by J. B. Kincer, the U. S. Weather Bureau's climate and crop weather expert.

Dr. W. J. Humphreys, noted meteorological physicist of Washington, expects television to allow the forecaster to see the sky at any place, far or near, when he wishes to see it.

Maj. E. H. Bowie, U. S. forecaster at San Francisco, believes that a study of water vapor in the air will unlock many weather secrets.

Looking a century into the future, T. A. Blair, of Lincoln, Nebr., suggests that it may then be possible to control the weather, and a WDA (Weather Distributing Administration) and even wars over weather control will result.

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METEOROLOGY

Better World Weather Map May Come from Expedition

BENEFITTING world agriculture and industry, a more complete world weather map and more accurate long range weather forecasts may result from the first federally-sponsored expedition to the Antarctic.

Daily weather reports may be radioed back to "civilization" in later years if more or less permanent Antarctic bases are maintained, Admiral Richard E. Byrd, commander of the expedition, said. He attended a conference under the auspices of the National Academy of Sciences and the National Research Council to map plans for scientific studies by the expedition, which will leave from Boston in October. Thirty-two scientists, representing 20 government agencies and nearly a dozen private scientific institutions, attended.

Dr. Isaiah Bowman, geographer and Johns Hopkins University president, was chairman of the conference.

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ENTOMOLOGY

World Champion Jitterbugs Are Larvae of a Wasp

WORLD champion jitterbugs, nominated by scientists at New York State College of Forestry at Syracuse, are larvae of a wasp, half-mosquito size, technically known as Neuroterus saltarius. Wasps lay eggs on pin-oak leaves. The larvae hatch, build little shells, pinhead size. They start a wild dance on dropping to ground. The wriggling of the larvae causes standing-start bounces 20-30 times sizes of dancing globes. The equivalent human performance would be springing into air 150 feet several thousand times. Reason for the larvae bounding: To achieve a crevice in ground to spend the winter. Next performance: Next year.

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GENERAL SCIENCE

U. S. Scientific Population Is Centered In Ohio

THE EDUCATIONAL center of the U.S.A. is in Ohio near Cincinnati, measured by geographical distribution of college students, and for scientific societies Columbus and Cincinnati are the big cities closest to their geographical centers of memberships.

Prof. Cecil B. Read, University of Wichita mathematician, has discovered these facts with the help of NYA students. His investigations were begun because a few years ago a society of scholars held a meeting at Richmond, Va., in response to suggestions that a western meeting be held. Those members west of the Mississippi rather felt that they were being ignored.

The geographical center of scientific population is farther east than the center of the general population as determined by the U. S. Census Bureau. Since 1890 the center of U. S. population has been in Indiana. In 1880 it was closest to the present center of college student population determined by Prof. Read. Members of the Geological Society of America group about a geographical center very close to the present center for the whole population, while the western oil fields cause the center of population of petroleum geologists to fall near Oklahoma City.

Columbus and Cincinnati are excellent convention cities for scientific societies, Prof. Read reports (*Science*, July 21) for the total number of miles of travel for every member would be a minimum.

Science News Letter, August 12, 1939