

MEDICINE

Inherited Fat Tendency Linked with Cancer

► AN INHERITED tendency to fatness and an inherited susceptibility to cancer seem to go hand in hand, research by Dr. Paul F. Fenton at Brown University in Providence, R. I., suggests.

Dr. Fenton's work has been with mice. Those of a strain which develop breast cancer he found, become fat when fed diets to their liking. But mice of a strain that resist cancer usually do not get fat on these same diets.

The findings are considered significant, according to the American Cancer Society, because fat mice and fat people are more susceptible to certain cancers than are skinny ones.

Science News Letter, June 10, 1950

GENERAL SCIENCE

Farm Output of Countries Within 5% of Prewar

► WESTERN Europe's Marshall Plan countries have boosted their agricultural output within five percent of the prewar level, a restricted index published for the first time by the Department of Agriculture reveals.

A great expansion in farm output since the postwar low of 1947-48 is ascribed largely to wider use of fertilizers, greater mechanization and improvements in cultivation and feeding practices.

Science News Letter, June 10, 1950

ASTRONOMY

First Comet of 1950 Discovered at Palomar

► DISCOVERY of the first new comet for 1950 has been made at Mt. Palomar Observatory. Dr. Rudolph Minkowski of Mt. Wilson and Palomar Observatories in California, found this eighth magnitude object with the 48-inch Schmidt telescope. It is too faint to be seen by the naked eye.

At midnight, the comet is high overhead, located between the stars Alpha Herculis in Hercules and Altair in Aquila, the Eagle. It rises a little after midnight and is visible most of the night.

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MEDICINE

Space Travelers May Breathe Water and Oxygen

► BREATHING water with oxygen dissolved in it may be the method of the future for preventing fatal convulsions in deep sea divers and during rocket travel in the biosphere and beyond.

Research indicating this and apparatus which can be adapted to attack the problem of water breathing were reported by Drs. S. N. Stein and R. R. Sonnenschein of the University of Illinois College of Medicine at the meeting in Chicago of the Aero Medical Association.

"There is no reason why, with water as a diluent for oxygen, man may not be able to work safely at any depth to which a fish may go, and at any acceleration which his tissues can tolerate physically," the Illinois scientist declared.

Using the pressure chamber they devised, it is possible, they stated, "to investigate the necessary constituents and oxygen pressure required for breathing water.

"Nature has set up the sign post to guide us on this venture—the amniotic fluid in the lung before birth.

"Animals," they stated, "can now be artificially ventilated at any desired rate with any gas in an ambient atmosphere of any other gas at any reasonable pressure."

Brain wave records, electrocardiograms and some indication of oxygen tension can be observed and recorded as guides to the desired constituents and pressures.

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GENERAL SCIENCE

Summer Students Combine Outings with Study

► THOUSANDS of students will combine their summer outing with the study of science this summer.

Almost 3,000 are enrolling for summer field courses in geology alone, it is revealed by a survey made by the American Geological Institute in Washington.

Other young men and women will put on blue jeans and arm themselves with geology picks to search for archaeological treasure in university field sessions in anthropology.

The geology students will be mostly men. Although 150 separate courses will be offered this summer by 79 colleges and 30 of them will accept women, only five out of a hundred students enrolled will be girls.

Some of the students will "rough it" in tents and log cabins, but most geology camps occupy modern buildings to which students will return each night from their field studies.

The geology camps offer an opportunity for young men of the east to go west. Most camps will be located west of the Mississippi; 13 institutions will operate camps in Colorado, the most popular state of the 31 offering study of this type. Texas and California are close behind Colorado in number of camps. In eight special survey courses, students will travel from place to place from the Atlantic coast to the Pacific.

The average student will spend six weeks in study and will write a detailed report.

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AERONAUTICS

Aviation Cadet Exchange Promotes Understanding

► THE exchange of cadets with foreign countries to promote international relations is a definite part of the program of the American Civil Air Patrol.

This was revealed in Washington at a recent meeting of the Wing Commanders of this civilian organization which is sponsored by the U. S. Air Force. At the meeting a 17-year old cadet, Donald E. Chaney, Branson, Mo., made a report of his experiences in England last summer where he spent two weeks as a guest of the Air Training Corps of the United Kingdom.

Each summer the Civil Air Patrol exchanges cadets with similar organizations in other countries. This summer, exchanges will be made with Canada, England, France, Portugal, Switzerland and Italy. The cadets are flown from the country to their destinations in U. S. Air Force craft and returned the same way after visiting youth groups and observing their ways.

At the same time similar young flying enthusiasts from those countries are brought to America and live while here in American homes. The total number of cadets enrolled in the Civil Air Patrol program is approaching 100,000, and this number is expected to be enrolled this year. These young men and women of high school age devote part of their time to studying aviation under instructions provided by the Civil Air Patrol units of the various states. The senior Civil Air Patrol members, in addition to supervising these cadet activities, are an integral part of the Air Force's air rescue services which contributed 65% of last year's search and rescue missions.

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BOTANY-MEDICINE

Poplar Tree Bark Yields Fungus-Stopping Extract

► BARK of poplar trees contains unidentified substances that can stop fungus growth, Dr. J. Grosjean, a Dutch scientist working at the Plant Research Institute at Wageningen, Holland, has discovered.

One of the trees whose bark can be used to produce a fungicidal extract is the balsam poplar (*Populus trichocarpa*) which grows in the Pacific Northwest of the United States and is known as the black cottonwood.

While fungus-fighting materials are common in leaves of plants, there is usually less such activity in the bark. According to the British journal, NATURE (May 27), the reverse is true for a number of the poplars.

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CE FIELDS

MEDICINE

Organ Transfer Is Newest In Surgery

► A NEW kind of surgery, called organ transfer, promises to make life more livable for many patients now housebound after operations for cancer of the bladder or other bladder diseases.

The operation consists in making a new bladder and bladder outlet out of the patient's own tissues. Part of the large intestine, near the appendix, is cut from the rest of the intestine and made into a pouch which is connected to the kidneys and serves as a bladder.

The operation was reported by Drs. James W. Merricks, R. K. Gilchrist, Howard Hamlin and I. T. Reiger of Chicago at the meeting in Washington, D. C. of the American Urological Association.

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CHEMISTRY

Plastic Bag in Wine Gives It Better Taste

► BETTER tasting wine through the use of a chemical-containing plastic bag placed in the wine was promised in Chicago.

The chemical gives off a small, constant stream of sulfur dioxide to the wine, although none of the wine can enter the plastic bag, Drs. H. Y. Yang and E. H. Wiegand of Oregon State College, Corvallis, reported to the Institute of Food Technologists. Sulfur dioxide is the only legal preservative for wine, and is effective for this purpose only when in a free state.

Heretofore it has been necessary for the winemaker to add the preservative frequently, which is a nuisance, or to add a large overdose, which results in an undesirable taste and is also unlawful.

Using the polyethylene plastic bag containing potassium metabisulfite, the sulfur dioxide in the wine is maintained at the proper level for preservation. No replenishment is needed, nor is the taste of the wine affected.

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ENTOMOLOGY

DDT Resistant Housefly Foiled Again by Chemical

► A CHEMICAL that makes DDT effective against houseflies which have grown resistant to DDT's killing action is announced by Drs. A. S. Perry and W. M. Hoskins of the University of California in the journal, SCIENCE (June 2).

The chemical is piperonyl cyclohexenone, also called piperonyl cyclonene. It is one of several chemicals that act with pyrethrin, an active principle of pyrethrum, to cause a greater insecticidal action than would be obtained by either pyrethrin or the cyclonene chemical alone. Drs. Perry and Hoskins tested a number of these pyrethrin synergists, as they are called, before finding one that would increase DDT's action on DDT-resistant houseflies.

Flies that have grown resistant to DDT, the California scientists find, have developed the ability to convert DDT into another, non-toxic chemical. They think this non-toxic chemical is an ethylene derivative of DDT, called DDE for short.

Piperonyl cyclonene largely prevents the conversion of DDT to DDE.

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MEDICINE

New Sulfa Drug Good Against Kidney Diseases

► A NEW sulfa drug, known as NU-445, or Gantrisin, is proving good medicine for infectious kidney and bladder diseases such as cystitis and pyelonephritis. Cures in 67 out of 100 cases were reported by Dr. Jerry J. Lash of Los Angeles at the meeting in Washington of the American Urological Association.

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MEDICINE

Blood Stockpiling for Disaster and Everyday Use

► A NATIONAL stockpiling of human blood for medical use in time of national disaster as well as meeting everyday needs is the eventual goal of basic changes made in the Red Cross National Blood Program, announced by the Red Cross President, General George C. Marshall.

Building upon the 32 centers for blood collection and distribution organized in the past three years, the augmented plan sets up a new policy committee of five physicians, and enlists the cooperation of medical and professional organizations and government agencies.

The development and appraisal of new methods in the collection, processing and preservation of blood and its components are being stressed in the new blood program as a separate service of the Red Cross.

To serve an emergency need for tremendous quantities of blood in a short time, the Red Cross will work closely with community and hospital blood banks.

Dr. Ross T. McIntire, national director of the blood program, heads the new committee which also includes Dr. Charles A. Janeway of Harvard, Dr. I. S. Ravdin of the University of Pennsylvania, Dr. Charles A. Doan of Ohio State University and Dr. Carl V. Moore of the Washington University School of Medicine.

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SEISMOLOGY

Torture Chamber Yields Clues to Quakes' Causes

► A SCIENTIFIC "torture chamber" recently completed at the University of California at Los Angeles is being used to learn how mountains and oceans were formed, to understand what causes earthquakes and to determine how to locate precious metal and petroleum deposits.

One of the machines in the laboratory will squeeze rocks with a pressure of 150,000 pounds per square inch. This is equivalent to the pressure that exists 22 miles below the continental crust, seven times deeper than man has penetrated.

After such giant pressures, rocks are examined under the microscope. The "creep" or "flow" of the rocks' structure, it is thought, may be responsible for earthquakes and continent-building. A study of the mechanism of rock fractures is expected to be of help in locating precious metal deposits.

Another device in the laboratory "makes" rocks. Loose sand can be compressed so tightly that it becomes solid quartzite. This study of sand compaction may furnish information about the flow of oil and provide valuable information in the field of petroleum geology.

The laboratory was established partly with a grant by the Office of Naval Research. Prof. David Griggs, Dr. John Handin and Wesley Miller of U. C. L. A.'s Institute of Geophysics are conducting experiments in it.

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AGRICULTURE

Weedkiller 2,4-D May Be Time Bomb for Lawn

► THE wonder weedkiller 2,4-D may be a delayed time bomb on your garden or lawn. New evidence is reported in Tucson that the potent chemical can persist in trees over an entire winter and produce injury to foliage the following spring.

Stunted, wilted leaflets appearing on chinaberry trees in the spring budding season last year were traced back to an application of 2,4-D on the surrounding lawn the preceding autumn, Dr. J. G. Brown of the Arizona Agricultural Experiment Station reports.

No immediate injury to the trees was noticed after an application of the weedicide to the lawn. But the symptoms the following spring were unmistakable, Dr. Brown says.

Earlier this year, Dr. Edgar C. Tullis and William C. Davis, researchers at the Department of Agriculture's Rice-Pasture Experiment Station in Beaumont, Texas, reported similar delayed injury to a group of Chinese Tallow trees accidentally sprayed with 2,4-D the previous summer.

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