

MEDICINE

Food Allergies Cause Skin To Break Out with Eczema

► **FOOD ALLERGY** appears to be the cause of most cases of eczema of the hands.

This is indicated in a new study by Dr. Albert H. Rowe, University of California Medical School.

In 80 cases of eczema of the hands, Dr. Rowe cleared up the condition by removing the guilty foods from the patient's diet. To prove his point he had the patient eat these same foods again. A new outbreak of eczema followed.

This does not eliminate other causes of eczema, such as inhalation of pollen and dust or the irritants contacted in various occupations, but it places a new importance on the role of food allergy.

The physician's treatment, consisting of a diet eliminating the allergenic foods but protecting nutrition and weight, usually began to show results in about two weeks, the period in which the guilty foods are eliminated from the body.

The skin usually became normal. Redness, itching and scaling remained in some cases, usually because of breaks in the diet, impossibility of eliminating all allergenic foods, or secondary reactions produced by soap, water, heat, sun, wind or chemicals.

Irritations of the skin of the hands, such as contact with industrial irritants or household chores, including cooking and washing, were found by the physician in some cases to trigger the food allergy into eczema.

This is illustrated by the fact that 80% of Dr. Rowe's food-sensitive patients were women. Most housewives were able to resume their chores without ill effect after the primary cause of the condition had been removed, however.

Science News Letter, April 26, 1947

MEDICINE

Smallpox Vaccine at Peak With Year's Supply Ready

► **RIGHT NOW** is the time of year when the nation's supply of smallpox vaccine is at its peak, with practically a year's supply on hand. So you can get vaccinated, and probably should, even though health authorities do not expect any epidemic to follow the 13 cases and three deaths that occurred in New York City and environs.

The shortage which slowed New York

City's vaccination program and may slow similar programs in other cities is due, apparently, to a run in the tubed vaccine. This is the form in which it is dispensed for use. Each almost needle-thin glass capillary tube contains one dose of vaccine. Ordinarily manufacturers might have half a million tubes ready to dispense, with the rest of their vaccine supply on hand in the "pulped" form.

Vaccine manufacturers ordinarily bring production to a halt at this season because the virus from which it is made does better in the cool weather.

It takes a month or six weeks to produce a batch of vaccine, starting from scratch with the calves.

Science News Letter, April 26, 1947

CHEMISTRY

Porous, Granular Compounds Can Carry Soil Fumigants

► **EXPLODED MICA**, coarse sawdust and other granular, porous substances are used as carriers for soil fumigants like the chlorides of ethylene, propylene, etc., which have been found effective for the control of borers and other soil-dwelling pests. This invention, protected by patent 2,419,073, is the work of O. H. Hammer of South Haven, Mich., assignor to the Dow Chemical Company.

Science News Letter, April 26, 1947

PHYSICS

Quiet Typewriter Platen Made of Separate Disks

► **A FRESH APPROACH** to the problem of reducing typewriter noise is represented in the invention on which U. S. patent 2,418,698 has been issued to Frederick U. Conard of West Hartford, Conn. Instead of attempting to minimize the blow of type against a solid platen, as in present-day "noiseless" typewriters, this invention undertakes to provide a platen that will not make so much noise when struck.

This is accomplished by building it up of a series of separate pierced disks or washers, each just one type-space wide, strung on a cylindrical rubber cushion supported by the central steel rod. As the typebars strike, each disk yields slightly; also very little of its vibration is transmitted to its neighbors, so that the platen as a whole does not resound. Rights in the patent are assigned to the Underwood Corporation.

Science News Letter, April 26, 1947

IN SCIEN

ENGINEERING

Infra-Red Studies Make Home Refrigerators Better

► **STUDIES** with the infra-red spectrometer, which help to produce a drier refrigerating fluid, are expected to bring the market an electrical refrigerator that will not need servicing more than once in 10 years, it was predicted in a paper by Drs. A. F. Benning, A. A. Ebert and C. F. Irwin of E. I. du Pont de Nemours and Company at the American Chemical Society meeting in Atlantic City, N. J.

If as little as ten parts per million of water gets into the freon used in refrigerators, it is likely to cause trouble. Analytical methods necessary to detect so little water have hitherto been extremely tedious, the standard procedure requiring four hours to complete. By the infra-red spectrometric method the water content of freon can be determined accurately in five minutes.

Science News Letter, April 26, 1947

CHEMISTRY

Chemists Getting Close To Synthetic Antibiotic

► **WHENEVER** a new natural product of plant or animal origin is discovered, chemists straightway undertake to make something like it—or better it. They have been trying to do this with penicillin, and at the meeting of the American Chemical Society in Atlantic City, N. J., Dr. Merritt C. Fernald and Dr. Walter B. Geiger of the New Jersey Agricultural Experiment Station announced that they are approaching the goal.

They have prepared a number of synthetic compounds that have much the same effects on bacteria and fungi as the natural antibiotics. The most powerful thus far investigated is known as acrylophenone. It has two drawbacks, however: it is only slightly soluble in water and is closely related to another compound that is highly poisonous to animals. So they are going on with their search for synthetic germ-killers that are safer to use.

Science News Letter, April 26, 1947

CE FIELDS

NUTRITION

Jet-Tenderizer Cures and Softens Tough Beefsteaks

► BEEFSTEAKS and other meats that are a trifle tough won't have to be brutally mauled with pounders or mechanically chewed up by one of the newer electrically-driven devices if a new jet-tenderizing process invented by V. L. Tichy of Cleveland comes into general use. Also, it will be possible to use meat immediately after slaughtering, without the time-consuming processes of "hanging" or curing now necessary.

Mr. Tichy's process takes advantage of the long-known fact that a needle-fine jet or spray of liquid at very high pressure will penetrate flesh to a considerable depth. Workers around diesel engines are thus injured, sometimes, when a small leak develops in the high-pressure oil injector.

Exactly the same principle is used in the jet-tenderizing process. Spray-openings as small as a ten-thousandth of an inch in diameter, with pressures as high as seven thousand pounds per square inch behind them, are used to drive droplets of tenderizing fluids into the meat. The fluids may be liquid fats, fiber-softening enzyme, mild acids or anything else that will accomplish the purpose. Small solid particles may also be shot through the jets, in liquid suspension. Meat can thus be salted and peppered in advance, if desired.

U. S. patent 2,418,914 has been granted on this invention.

Science News Letter, April 26, 1947

METEOROLOGY

Facsimile Weather Maps To Be Used by AAF Pilots

► FACSIMILE transmitters for relaying weather maps to Army Air Force pilots by wire or radio are being installed nation-wide, it has been revealed. The system will furnish even the smallest equipped airports with up-to-the-minute weather information.

The transmission of pictures, maps and printed pages by wire or radio is not new, but recent developments have made it more practical than ever before. Facsimile transmission is now coming into

wide use. Newspaper offices are planning to use special broadcasting stations to deliver important news direct to homes at regular intervals, one letter-sized page at a time.

In facsimile transmission, the picture or page to be sent is put on a cylinder and rapidly scanned by a revolving sharp beam of light that passes over it in parallel lines. The beam is then passed to an electric eye, its intensity varied by lights and shades on the picture. The electric current from the eye therefore varies. The receiver in the office or home works in reverse. A beam from a light source in it varies in intensity with the current received. This beam of light travels in rapid lines over a photographically sensitized paper, leaving an exact copy of the picture being sent.

The Army plans call for dividing the entire United States into four large networks, each covering approximately 1,000 square miles. Weather analysts in a centrally located weather bureau will prepare the maps, insert them into the transmitters, and relay copies to stations all over the nation. Pilots taking off from any field in the country equipped with facsimile receivers will have the advantage of the latest weather information.

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MEDICINE

Penicillin Helps to Cure Germ Infections of Bones

► PENICILLIN is helping the lame to walk again, at least if their trouble has been due to chronic germ infections of the bones.

A patient who for a long time had chronic tuberculosis of the knee joint and osteomyelitis of the thigh bone and the inner bone of the leg below the knee had excellent function of the leg at the end of a year, thanks to penicillin and surgical operations.

This and 57 other cases in which penicillin was used with surgery to clear up bone infections are reported by Drs. H. J. McCorkle, Henry Silvani and W. E. Stern and Miss Helen Warner, researcher, of the University of California Medical School.

The penicillin is given several days before operation. Then the surgeons remove all infected bone tissues and penicillin is again given, this time until the soft tissues and bone are healed. Details of the treatment appear in *Surgery, Gynecology and Obstetrics* (March).

Science News Letter, April 26, 1947

ENGINEERING

Electric Power from Nile To Help Egypt's Industry

► UPPER EGYPT is promised plenty of electric power from the Assouan dam on the Nile. Funds for the electrification of the giant dam have now been authorized, it is revealed. Development of some 270,000 horsepower is expected.

One important use planned for the electricity is the fixation of nitrogen, to supply Egypt with badly needed fertilizer. The power will also be used to develop the iron and other mining industries, as well as for lighting cities, pumping irrigation water and operating railways.

Assouan dam, completed in 1933, is located at the first cataract of the Nile, 750 miles south of the Mediterranean. Its electrification is a war-delayed project. An official study of its possibilities was begun in 1939. It provides an 85-foot head of water, and is said to store over 5,000,000,000 tons of water. Its reservoir backs up the water 180 miles, to near the second cataract of the Nile.

Construction of the earliest Assouan dam was completed in 1902. This original has been heightened twice to make the present structure. Its construction was strongly opposed by archaeologists, because the reservoir when filled covers all but the highest portions of the Temple of Philae. The temple, strengthened before the building of the dam was started, is now partially disclosed at low water.

Science News Letter, April 26, 1947

OPHTHALMOLOGY

Blindness in Babies Reduced by Over 75%

► BLINDNESS in new-born babies, resulting from a germ disease, has been reduced by more than 75% since 1908, when the National Society for the Prevention of Blindness started its fight against this form of blindness.

Public education and legislation are credited with this achievement in the annual report by the society's president, Mason H. Bigelow.

The increase in life expectancy has increased the amount of eye disease and the machine age has brought further hazards to eyesight through industrial accidents. Efforts to combat these dangers to vision are now being made by the Society.

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