NUTRITION

Factor Found in Cream Prevents New Disease

➤ A NEW deficiency disease, marked by muscular stiffness and deposits of calcium phosphate in all organs and parts of the body, was described before the Cleveland meeting of the American Chemical Society by Prof. William J. Van Wagendonk of Oregon State College.

The preventive dietary factor is present in cream, in very small quantities. Prof. Van Wagendonk stated that he has isolated one milligram of it, and that he used up 550 gallons of cream for the purpose. It would take about 30,000 milligrams to make one ounce by weight. Pasteurization destroys it. The same factor has also been detected in green vegetables, especially cabbage.

Guinea pigs kept on a diet containing skim milk but no cream developed the stiffness in two or three weeks, and the lime deposits in about a year. One-tenth microgram of the preventive factor (which is a ketone) abated the stiffness in about five days, but it took a year for the lime deposits to be eliminated.

Discovery of the lime deposit formation is credited to Prof. Van Wagendonk's colleague, Prof. Rosalind Wulzen.

Science News Letter, April 22, 1944

MEDICINE

Penicillin Saves Eyes That Would Have Been Lost

➤ THE EYE-SAVING role of penicillin appears in a report by Dr. G. T. Willoughby Cashell, Squadron Leader and Ophthalmic Specialist, R.A.F. (*British Medical Journal,* March 25)

"It is possible to save eyes which would otherwise undoubtedly have been lost from intraocular infection," he declares.

Inflamed, crusting, scaly lids with watery discharge, present in some cases since childhood, cleared up within two weeks or less when a drop of penicillin solution was put in each eye three times a day.

Cases of acute conjunctivitis improved dramatically. One man had a very severe infection of both eyes, with superficial infection of the corneas, extreme sensitivity to light, and spasm of the muscles of the eyelids. The weeping eyes caused a spreading infection of the skin of the lids which eventually affected the whole face and spread down the neck. After 48 hours of treatment, this man could open his eyes without discomfort, the redness of the membrane lining the eyelids and covering the eyeball had almost disappeared and the skin of the lids was clearing rapidly. Within a week the whole condition subsided.

Ulcers of the cornea and infections following perforating injury of the eyes responded equally well to penicillin treatment. In five out of six cases of such injury, spread of the infection to all structures and tissues of the eyes was avoided. In two cases, Dr. Cashell states, the eyes would undoubtedly have been lost from such widespread infection if penicillin had not been used.

Science News Letter, April 22, 1944

GENERAL SCIENCE

Science Teachers Unified Into Single Association

➤ A SINGLE national organization of science teachers named the National Science Teachers Association, has been formed to take over the functions of the two existing science teacher bodies, the American Council of Science Teachers and the American Science Teachers Association.

Action toward the merger was taken at a conference of delegates representing leading science teacher organizations held in Pittsburgh. The new organization will have most of the regional and specialized societies in its field allied with it, and it in turn will be affiliated with both the National Education Association and the American Association for the Advancement of Science.

Dr. Philip G. Johnson of Cornell is the temporary chairman of the new organization, while Norman B. D. Jones of St. Louis heads the ACST and Dr. Morris Meister of the Bronx High School of Science, New York City, is president of the ASTA.

Science News Letter, April 22, 1944

CHEMISTRY

Candle to Replace Stove In Heating Combat Rations

➤ A SQUARE CANDLE for heating the meat components of combat rations in the field when gasoline stoves are not accessible has been developed by the Quartermaster Corps. Composed of refined paraffin wax with a high melting point and wood flour, it will ignite readily even after being submerged in water for several hours.

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IN SCIEN

PHYSIOLOGY

Poison Fought Poison In Experiments on Rats

➤ POISON fought poison, in a series of experiments on white rats reported by Prof. C. R. Moxon, Dr. C. R. Paynter and Dr. A. W. Halverson of the South Dakota Agricultural Experiment Station, at the Cleveland meeting of the American Chemical Society. The rats were given small measured doses of selenium, a soil poison that has been causing considerable trouble in some stock-raising areas in the Northwest. To counteract this, some of the animals were given balancing doses of arsenic. This poison has an antagonistic effect to selenium, and saved the lives of some of the selenium-poisoned rats.

Science News Letter, April 22, 1944

TECHNOLOGY

New Enamel Can Withstand "Hades Temperature"

➤ A NEW porcelain enamel that can withstand "temperatures usually associated only with Hades," is now used as a finish for airplane exhaust stacks, Robert A. Weaver, president of the Ferro Enamel Corporation of Cleveland, told the American Ceramic Society meeting in Pittsburgh. This is only one of the many wartime adaptations of this substance.

Thanks to the development of thinner cover coats and better bonding qualities, the porcelain enamel of today is tougher, more resilient, more shockproof, and free from chipping, Mr. Weaver declared.

"It is as different from old enamel as the modern refrigerator is from the old-fashioned ice box," he said.

Not only has regular enamel of store front and stove, consisting of a ground coat and one or more cover coats, been substantially improved, but real progress has been made on a single coat finish that should indicate a greatly expanded post-war use of porcelain enamel, Mr. Weaver said.

"Better processing methods, plus the permanence and color of porcelain enamel, should make this ideal for corrugated metal roofing, metal shingles, steel shelving and a host of other products," he predicted.

Science News Letter, April 22, 1944

CE FIELDS

AERONAUTICS

Airplane Landing Run Shortened by Parachutes

➤ A NOVEL DEVICE for shortening the landing run of an airplane consists of two equally spaced air drags which open at right angles to the long axis of the plane and are released by the pilot at will. In flight they are held in recesses on the sides of the plane near the rear. When released they swing out simultaneously, acting in unison so that the plane motion will not become unbalanced.

On the ends of these two air drags are lobe-shaped parachutes which are opened by the onrush of the air. They furnish sufficient resistance to bring the plane to a relatively quick stop. The patent for this device, No. 2,346,255, was granted to Arthur David Hansson, Shrewsbury, N. J.

Science News Letter, April 22, 1944

NUTRITION

Rice Pudding Popular With Soldiers Overseas

➤ POPULAR DIET items with American soldiers overseas are the pineapple rice pudding of their ten-in-one ration, salads and mashed potatoes with gravy, Col. Paul E. Howe, Sanitary Corps, Director of the Nutrition Division, Office of the Surgeon General, told a press conference in Washington on his return from a six months' tour of inspection of troop installations overseas.

The men as a rule are well nourished, Colonel Howe stated.

Little things, such as catsup, baking powder and spices, are important for giving variety to Army messes, he found, but on the whole the men like good plain cooking rather than fancy things. They also like American food although they are glad to get such native foods as fresh meat, fresh butter and fresh vegetables when these are available.

The most exotic of the native foods which he mentioned were gazelle and wild boar meat, which some troops were able to get in Persia.

In spite of tremendous advances in knowledge of nutrition, men in the Army camps in this country were as well nourished in 1918 as today, Colonel Howe said. The Army and civilians, too, ate carrots and fresh fruits and the like then as now, though we did not know then about the vitamins and minerals furnished by such foods.

Colonel Howe said he could not compare the nourishing quality of the rations for overseas troops today with those in World War I because he had personal knowledge of Army rations only in this country during the earlier war.

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CHEMISTRY

Wood Veneer on Metal Possible with Pliobond

➤ WOOD VENEER on metal surfaces is now possible with a new adhesive developed by scientists of the Goodyear Research Laboratory. With the new bonding material, called Pliobond, a sheet of wood as thin as one forty-eighth of an inch can be firmly cemented to a metal sheet, and the combination can be bent into any chosen form or cut with shears or stamping press without injury.

Steel, aluminum and other sheet metal, to which a thin layer of wood is attached with this bonding material, have many possible uses, including panelling walls in office buildings and homes, cabins in aircraft, and cars in light-weight streamlined trains. In veneering the metal, the Pliobond is spread on it, the layer of wood put in place, and moderate pressure and heat applied for 15 minutes.

Science News Letter, April 22, 1944

PUBLIC HEALTH

Appendicitis Death Rate Has Been Almost Halved

➤ THE APPENDICITIS death rate has been almost halved in the last four years, statisticians of the Metropolitan Life Insurance Company announce.

The statement applies to the company's industrial policyholders but Census Bureau records quoted in the company's statement show that all but five states have lowered their appendicitis mortality by more than 50% in the years between 1930 and 1942.

The reduction in appendicitis mortality, called an "outstanding public health achievement," is credited primarily to the intensive educational campaign to encourage early hospitalization in appendicitis and to urge against the use of laxatives in the presence of abdominal pain.

Science News Letter, April 22, 1944

ENGINEERING

Landing Fields May Have Underground Lighting

➤ ILLUMINATION of aviation landing fields by underground lights, eliminating the commonly used overhead system of flood lights with the necessary superstructures, is a possibility under U. S. patent 2,346,304, just issued to Eulalia C. Henderson and George Stallard of San Francisco. It covers a cushioned, non-skid, illuminated surface, and does away with glaring lights and dangerous obstacles.

The landing surface of the flying field, constructed in accordance with the patent, comprises a large number of solid transparent panels, set in sections, and means of illuminating the panels from underneath. Sections are mounted on cushion springs and are depressed vertically when weighted by a plane. The undepressed edges of adjacent sections form ridges that help brake the plane and prevent skidding. Additional protection from skidding may be obtained by grooves or cups on the upper surfaces of the panels. Ice and snow are melted by the heat of the lights, or by supplementary heat if necessary.

Science News Letter, April 22, 1944

CHEMISTRY

Synthetic Vitamin C Produced from Beet Pulp

➤ SINCE vitamin C, or ascorbic acid, has been found useful in hastening the healing of wounds, greatly increased quantities of it are in demand. A means for producing it synthetically from beet pulp, ground out in enormous quantities at American sugar mills, was described before the American Chemical Society meeting in Cleveland by Dr. Horace S. Isbell of the U. S. Department of Commerce.

Beet pulp contains a compound known as galacturonic acid. A liquid extract of the pulp treated with salts of sodium, calcium or strontium and then evaporated, produced large quantities of the acid in a high degree of purity. By three further chemical steps it was converted into the vitamin.

Under present conditions, a ton of beet pulp will yield about 50 pounds of vitamin C, Dr. Isbell stated, but he added that improvements in the process can be expected to increase the yield considerably.

Science News Letter, April 22, 1944