MEDICINE

Penicillin Production Speeded by Use of Radium

➤ PENICILLIN production schedules can be speeded by two or three days through the use of radium or other radioactive substances, it appears from a report by Dr. Richard Jahiel, Miss Ethel Guberman and Rafael Kazdan, of the Biochemical Research Laboratories of the Canadian Radium and Uranium Corporation, (*Science,* Sept. 29).

Basis for the experiments of the Canadian scientists is the fact that minute amounts of radium emanation, or other radioactive substances, have an exciting action on the growth of living substances although radiation from larger doses has a destroying power.

When porcelain tubes containing radium were added to the bottles in which the mold, penicillium, was growing, the peak of penicillin secretion came at least two or three days before it was reached in bottles of mold growing without irradiation.

Adding a fluorescent substance, such as the dye, fluorescein, to the growth medium in which radioactive substances are present improves noticeably the effects of the radioactive elements.

Science News Letter, October 7, 1944

NUTRITION

Blanching Advised For Dehydrated Carrots

➤ COMMERCIAL dehydrated carrots which are to be kept in storage for some time before being used should be blanched before dehydration, Prof. T. E. Weier of the University of California suggested in a report to the Botanical Society of America. Carrots blanched before dehydration retain their coloring and vitamin A considerably longer than those which are not, Prof. Weier found.

By placing rehydrated carrots in moist oxygen at 144 degrees Fahrenheit for 24 hours, Prof. Weier was able to bring about changes in appearance which he felt were similar to those occurring naturally in dehydrated carrots after three to eight months of storage. (*American Journal of Botany.*)

Eight-month-old commercial dehydrated carrots which had not been blanched completely lost their carotene within 24 hours when given this treatment. Carotene is the precursor of vitamin A. Dehydrated carrots of the same age blanched before dehydration, did not lose all their carotene until after 48 hours.

When carrots are heated, the carotene in the cells goes into solution in an unsaturated fat. It disappears from this fat when carrots are heated in moist air to 144 degrees Fahrenheit for 20 hours. The rate of carotene breakdown is speeded by oxygen.

Science News Letter, October 7, 1944

NUTRITION

Custom of Devitaminizing Vegetables Is Criticized

➤ THE ABSURDITY inherent in first virtually devitalizing our vegetables to make them look pretty and sell well, and then stuffing ourselves with expensive vitamin pills to make up for the lack, was decried by Prof. A. E. Murneek of the University of Missouri at the meeting of the American Association for the Advancement of Science.

It is a long time, he declared, since it has been possible to buy in the market "a carrot that tastes like a carrot," sweetcorn as delicious as oldfashioned golden bantam, and spicy-flavored plums. They have disappeared in favor of products with greater "eye appeal" but poorer flavor and lower vitamin content.

One factor that has helped produce inherently poorer vegetables and fruits, Prof. Murneek continued, has been the necessity for varieties that will stand shipment and keep well. A possible remedy for this situation lies in improved refrigeration and faster transportation including carriage by air, he suggested.

Science News Letter, October 7, 1944

METALLURGY

Electric Furnace Invented For Extracting Magnesium

➤ AN ELECTRIC furnace for the extraction of the now widely-used light metal magnesium from its ores is the subject of patent 2,355,343, issued to two Swiss inventors, Alfred von Zeerleder and Warner Syz. It differs from other furnaces of its general class in that its heating element, a long carbon rod, is contained within a welded tube thrust up vertically at the very center of the furnace.

The carbon is protected against burning out by being kept in a vacuum or in an atmosphere of one of the inert gases. Its central position makes for more efficient use of the heat it gives off.

The inventors have assigned their patent rights to a Swiss corporation, Société Anonyme pour l'Industrie de l'Aluminum.

Science News Letter, October 7, 1944

IN SCIEN

MEDICINE

Whooping Cough Vaccine Gets Official Approval

➤ VACCINATING babies and small children against whooping cough will probably become a more popular procedure now that three kinds of whooping cough vaccines, the Sauer, the Kendrick and Eldering, and the Harrison and Bell, have been officially approved by the American Medical Association.

"Significant protection" in the way of either escaping the disease altogether or having a less severe attack is conferred by modern vaccines, Dr. Harriet M. Felton and Miss Cecilia Y. Willard, of Philadelphia, report (*Journal, American Medical Association,* Sept. 30). Their report reviews many studies made by various scientific groups.

Science News Letter, October 7, 1944

MILITARY SCIENCE

Sky-Hook Is Successful For Dropping Food

➤ A NEW device, known as a "sky-hook," will soon be dropping supplies of food, medicine, and mail from cargo planes to military personnel in isolated spots. It is better for this use than a parachute, since in ordinary winds it will land almost directly beneath the point of release.

Developed by the Materiel Command, Wright Field, the sky-hook drops to earth with the movement of the winged seed of the maple tree. The moment that the sky-hook is released it begins spinning directly towards earth without forward motion. Various models can drop loads ranging in weight from ounces up to 100 pounds.

Sky-hooks are made in several models of steel, aluminum, and plastics. They look like a woman's large hat box with a wing stuck on one side. They are about 10 inches thick and 18 to 20 inches in diameter. The cargo container is circular in shape with a slightly rounded bottom. It has a capacity of 2.5 cubic feet, or about 17 gallons. Each sky-hook has a wing, made from spruce or balsa wood, attached to the top of the container. The wings can be quickly removed and are interchangeable among various models.

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CE FIELDS

MEDICINE

German Wooden Bullets Hard to Find by X-ray

➤ WOODEN bullets, which the Germans are said to have used at Cherbourg when hard pressed for ammunition and presumably might use again, are practically invisible in X-ray pictures of the wounds they make, Dr. Norman P. Henderson reports (*British Medical Journal*, Sept. 9).

The wooden bullets are said to be effective up to about 100 yards. At this short range, Dr. Henderson says, the wood breaks up on striking solid structures such as bone and the scattered fragments are not likely to be located by X-rays.

Through the courtesy of a Naval friend, Dr. Henderson was able to study the X-ray appearances of a round of rifle ammunition with wooden bullets instead of the customary metal variety. An X-ray picture made with a complete cartridge and bullet placed between a patient's leg and the film shows the wooden bullet is practically invisible to the rays.

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PUBLIC HEALTH

Geo-Medicine Studies Keep Allied Soldiers Well

➤ GEO-MEDICINE is one of the words we may all be adding to our vocabularies as a result of the war. It is the branch of medicine that has to do with the geographical distribution of disease and health. Studies of this branch of medicine by medical officers of our Army play a large part in keeping our soldiers healthy, no matter where they have gone to meet and overcome the enemy. And they have gone to some very unhealthy places.

"Had we deliberately selected the battleground that presented the worst hazards to health, we would have departed little from the areas in which our enemies have so far forced us to do battle or to operate our supply lines," says the introduction to a new book, *Global Epidemiology*.

The book (published by Lippincott) is by Brig. Gen. James S. Simmons, chief of the preventive medicine service of the Office of the Surgeon General, U. S. Army, and Lt. Col. Tom F. Whayne, Lt. Col. Gaylord West Anderson and Maj. Harold MacLachlan Horack, who have been serving in the medical intelligence division of the preventive medicine service.

From Burma to Iceland, from New Guinea to North Africa, wherever our troops have gone or may yet go, medical intelligence has surveyed the health situation, learned what particular dangers exist and how to guard against them.

Here in the United States we associate malaria with swamps. In some parts of the world, however, the malaria mosquitoes breed in running water instead of swamps. In some places they breed in the shade, whereas a few miles away they may breed in the sunshine. Medical and sanitary officers who go with the troops must know when they get to a malarious region the breeding habits of the malaria mosquitoes in that particular region in order to fight the disease successfully.

Information of this kind, assembled by medical intelligence, will have public health value after the war when civilians start flying around the world. So the medical intelligence surveys, except for such material as would affect military security, are now being published.

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AERONAUTICS

CAA Given "Go Ahead" On Marking Program

➤ RESTRICTIONS against air markers have been lifted by the War and Navy Departments, with the exception of a strip 150-miles wide inland from the West Coast and Alaska, so that the Civil Aeronautics Administration program for erecting 100,000 markers can get underway.

The air markers will provide private pilots and commercial airlines with navigation information that in the daytime will give them their exact location, the direction of true north, and the direction and mileage to the nearest landing fields.

These markers may be made of crushed rock, shrubs, or enameled metal strips, and will be painted at highway intersections, on mountain sides, and on farm buildings in open country. The job of erecting the air markers will be done by civic, state, and aviation organizations as well as major oil companies, under the direction of Blanche Noyes, CAA's Air Marking Specialist, Bureau of Federal Airways.

Science News Letter, October 7, 1944

EDUCATION

Air Force Technicians Go to School in England

➤ THOUSANDS of Army Air Force technicians are now in school in England to enable them to keep the big bombers flying against Germany with never a letup caused by maintenance troubles, the War Department has announced.

Training becomes obsolete as fast as airplanes. Each new plane or new piece of equipment requires highly trained technicians to keep it in good working order. There are over 500 different classifications of technical jobs which require special training. These include the general fields of electronics, gun turrets, engines, hydraulics, and instruments.

Instead of sending an expert overseas with every new development, the AAF keeps these training schools in continual operation in England to meet the need for specialists.

About 4,500 sheet metal workers have been trained in these schools, and this represents only a small part of the total number trained. These sheet metal workers patch holes in bombers made by German flak, and have them ready to go back into service to carry another load of bombs in the shortest possible time.

Training is divided into two phases: The men are first taught in schools. Then they receive additional training in the shops and at air fields.

Science News Letter, October 7, 1944

AERONAUTICS

Slot Through Plane Wing Used to Cool Engine

➤ AN AMERICAN airplane patent of unusual interest is No. 2,352,144, issued to Robert J. Woods of Grand Island, N. Y., and assigned by him to the Bell Aircraft Corporation. This patent is on a slot that goes entirely through the airplane wing from leading to trailing edge, and on the flap that opens and closes it. This radically-cut slot has as one primary objective the carrying of a cooling air blast to the plane's power plant.

A characteristic of certain planes of Bell design, notably the Airacobra, is the placing of the engine far back in the fuselage, behind the pilot's seat; this in turn necessitates getting cooling effects well back. Bell has also taken a leading part in the American development of jet-propelled craft, which also require a cooling blast well toward the rear.

Science News Letter, October 7, 1944