MEDICINE

Bone Disease Treatment

Penicillin has been found effective for osteomyelitis in experiments on laboratory rats, the bones healing with no trace of infection.

➤ PENICILLIN was found effective in the treatment of osteomyelitis, one of the most serious of bone diseases, in experiments on laboratory rats reported by Dr. J. Emerson Kempf and Dr. J. Arthur Herrick of the University of Michigan School of Medicine before the meeting of the American Association for the Advancement of Science in Cleveland.

Very heavy doses of penicillin were injected at frequent intervals into rats in which the bone disease was present in virulent form; other afflicted rats were left untreated, as controls. Most of the treated rats showed marked improvement, and eventually their bones healed with no evidence of remaining infection. All but two untreated rats got no better, and some of them grew worse.

Science News Letter, September 23, 1944

Preservative Affects Vaccine

➤ VALUE of the new influenza virus vaccine, if kept for any length of time, is definitely affected by the kind of preservative used in it, experiments reported by Dr. H. M. Powell of the Lilly Research Laboratories, Indianapolis, indicate. The vaccine was prepared in 10-day incubated eggs, by a procedure that has now become standard. Merthiolate, formalin, strong salt solution, and phenol were the preservatives used.

After being kept in an incubator at approximately body heat for a week, all the lots except the ones containing phenol were found to be still of satisfactory strength. The phenol-preserved vaccine had lost half its potency. After an additional week of incubation the vaccine containing phenol had very weak action, while the other lots were still in useful condition. The indication, therefore, is that phenol is not a satisfactory preservative for this type of vaccine.

Science News Letter, September 23, 1944

Ultraviolet-Rayed Sausage

➤ GET SET for ultraviolet-rayed sausage, the hearty breakfast dish with vitamin value. Dr. Edgar P. Jones and Joshua Stampfer of the University of Akron reported success in curing rickets in laboratory rats with pork sausage that had been irradiated with ultraviolet. The cure was rapid, too: in six days the animals' bones had healed. Similarly afflicted rats that got no sausage to eat, and others that got sausage without benefit of ultraviolet, remained rachitic.

Science News Letter, September 23, 1944

Athlete's Foot Serious

➤ ATHLETE'S foot is a serious military problem in the South Pacific war theater, Prof. Fred D. Weidman of the University of Pennsylvania told members of the Mycological Society of America. It causes swelling and eczema-like inflammation of the feet, and sometimes loss of skin from the soles. It may also spread to the hands. Among service men in the United States, it is the second most serious disease of the skin, as measured by the number of cases admitted to hospitals.

Athlete's foot is caused by a fungus infection. Any one of several species may be active, including one yeastlike form. The fungi are very tough and long-lived; it has been found living and ready to go on growing in dry bits of skin that had been shed 433 days before.

Easy to get and hard to cure, athlete's foot is a sometimes annoying, sometimes disabling but never fatal malady. It limits itself almost altogether to the skin, occasionally involving also lymphatic tissue, but never eating down into the flesh or entering the blood stream.

Science News Letter, September 23, 1944

Planes Fitted to Humans

➤ AVIATION engineers and physiologists are getting together, to make modern high-performance aircraft safer and more efficient mechanisms by taking into account the capabilities and limitations of the human body, Dr. D. W. Bronk, of the University of Pennsylvania, told the meeting. The organs and senses of human beings were not evolved for the stresses, speeds and other demands made upon them in present-day flying; gadgets and instruments installed in the planes are designed to serve as extensions of the humans' parts, to enable them to meet these demands.

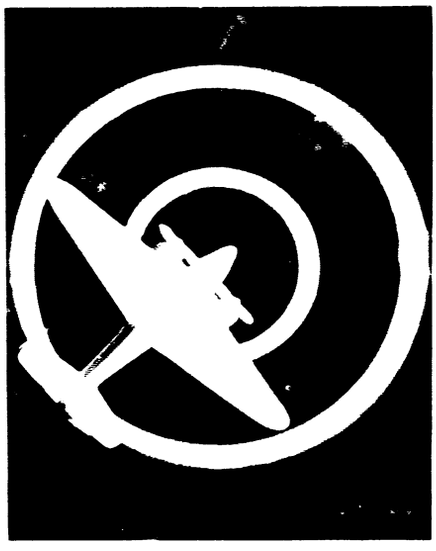
As specific examples, Dr. Bronk mentioned a new oxygen-supplying valve, which turns on the oxygen when the wearer begins to breathe hard, and shuts it off again when breathing returns to normal; and the various instruments in the cockpit that tell him when the plane is actually wrong side up, when sudden turns and steep banks have confused the flyer's ordinary senses.

Science News Letter, September 23, 1944

Addiction a Disease

➤ ACCEPTANCE by local communities of more responsibility for the problems of alcoholic addiction was called for by Dr. A. J. Carlson, of the University of Chicago. At present, he pointed out, our towns and cities act entirely on the assumption that drunkenness is a sin and a crime, and have facilities only for punishment. They do not take into account the possibility that it may be at least partly a disease, and so do not provide means for treatment.

Dr. Carlson also decried the over-emotional approach that has dominated temperance instruction in the schools, with



CLEAR VIEW—Here is what a gunner sees when he aims at an enemy plane through a sight equipped with a new Westinghouse gunsight lamp. The sight lines stand out bright and clear, making it possible to fire accurately even while aiming directly into the sun. Without this lamp the gunner could not aim within about 15 degrees of the sun, thus leaving a dreaded blind spot from which the enemy could dive to attack.

resulting falsifications of fact which children soon detect, and thereafter become hardboiled little skeptics. Stricter adherence to factual truth, he declared, will have better permanent results in the end.

Science News Letter, September 23, 1944

Ducks Have Malaria

➤ DUCKS sick with malaria of the type that attacks birds showed symptoms of the same kind that are found in seriously ill human malaria patients, a motion picture film displayed before the meeting by Dr. D. E. Fletcher and Dr. R. H. Rigdon, of the University of Arkansas School of Medicine, demonstrated. They could not stand or walk straight, the muscles were weak and incoordinated, and the birds showed little inclination to move. In general, the symptoms were those of injury to the forebrain.

On dissecting the brain after death, such brain injury was found. Certain important nerve cells were greatly impaired, or had even vanished. Similar injuries have been found in the brain of a child that had died of the most severe form of malaria, and also of monkeys experimentally inoculated with malaria.

Science News Letter, September 23, 1944

NUTRITION

Higher Vitamin Content

Vegetables, fruits, cereal foods, and even meat can be made richer in vitamins if nutritionists say the word and point the way to scientists.

➤ VEGETABLES, fruits, cereal foods, such as wheat for bread, and even meat can be made richer in vitamins and other nourishing qualities if nutritionists say the word and point the way to agricultural scientists, Dr. R. J. Garber, director of the U. S. Department of Agriculture's Regional Pasture Research Laboratory at State College, Pa., told members of the American Association for the Advancement of Science, meeting in Cleveland.

Already a way has been found to breed sweet potatoes with a higher content of carotene, the chemical from which human bodies make vitamin A. A variety of snap beans and two varieties of cabbage with more vitamin C in them than commercial varieties of these vegetables have been developed.

Discovery of differences in the amount of thiamin, better known as vitamin B_1, between varieties of wheat suggests, Dr. Garber said, that it may be possible by breeding to produce a wheat with more of this vitamin than any now commonly grown.

It may even be possible, he said, to change by breeding the relative thiamin content of different parts of the wheat kernel. This means that fine white flour for bread could be obtained without milling out the vitamin and having to put it back into the flour or bread as is done under the present enrichment program. Minerals, such as iron, copper, calcium and the like, can be increased in plant foods by increasing the amounts of these minerals in the soil. Some plants, however, may inherit better ability to pick up minerals from the soil than others. This suggests that the plant breeder might develop varieties of plant foods that would supply more minerals as well as more vitamins.

Only a beginning has been made along these lines, Dr. Garber said, but the way is open for great future progress similar to the strides plant breeders have already made in developing fruits, vegetables and grains that are bigger, more attractive looking, better tasting, more productive and more resistant to disease.

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Incubator Plants

➤ INCUBATOR babies now have their equivalents in the plant world, it was disclosed at the meeting by Dr. Albert F. Blakeslee of the Smith College genetics experiment station. They are tiny plant embryos, too feeble to sprout from the seeds in which they are formed, or even to produce their own roots when they are helped out artifically, but scientifically so valuable that special efforts to make them live and grow are worth while.

Very carefully dissected out of the seeds with keen but delicate instruments manipulated under a microscope, the minute plantlets are lifted onto a bed of gelatine-like material containing necessary nutrients and carefully kept free of disease germs and fungi. Some of the little plants are too weak to produce roots even with this ultra-careful nursing. For such, a second operation has been provided: micrografting, which supplies roots from a healthy plant that will take hold of the feeble scions and feed them into normal growth.

Drying out is another danger which these botanical incubator babies must face. To prevent this, the weak but hopeful infants are kept inside ordinary gelatine medical capsules, that serve as microgreenhouses.

Naturally, extreme care of this kind is provided only for a few premature infant plants. Thus far, they have been of hybrids produced by crossing plants rath-

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