

MEDICINE

Penicillin for Cancer

Mold chemical kills cancer cells without harming normal cells. Experiments so far are in the test-tube stage only, research scientists warn.

► **TEST-TUBE** experiments putting penicillin in the role of a possible weapon against cancer are announced. (*Science*, March 24).

The experiments were performed at the Wistar Institute of Anatomy and Biology, Philadelphia, by William Ivor Cornman, who is now a corporal, or technician fifth grade, working in the laboratory of Walter Reed Hospital.

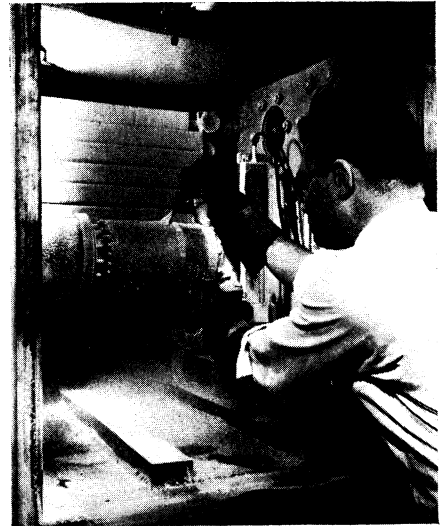
Penicillin, Corporal Cornman found, will kill mouse and rat bone cancer cells while leaving unharmed normal cells growing by their side in culture tubes outside the animal body.

After the penicillin treatment the tumors were implanted into rats of a 100% cancer susceptible strain. All tumor cultures on which penicillin had produced lethal damage and most of those on

which it had produced marked damage failed to produce tumors in the susceptible rats. Cultures not treated with penicillin all produced tumors when implanted into the rats.

This selective killing action of penicillin against one kind of cancer cell without damage to surrounding normal cells seems to be just what cancer specialists have long been looking for. However, Dr. M. R. Lewis and Dr. W. H. Lewis, famed wife-and-husband team under whose direction Corporal Cornman's studies were made at the Wistar Institute, warn that the experiments were of the test-tube variety only and that successful trials in animals will be necessary before any hope of penicillin being a cancer cure can be justified.

Science News Letter, April 1, 1944



WELL-FROSTED — This airplane generator has, in effect, been to 70,000 feet altitude. In the testing chamber of the Westinghouse Electric & Manufacturing Co. electrical equipment for planes can be subjected to a simulated take-off from a hot, steaming landing strip in a jungle, and climb at the normal rate to the cold, rarefied air of the stratosphere.

As one result of the tests, University authorities are of the opinion that farmers need an "open formula" for galvanized wire fencing, to tell them just how much zinc is used in coating it.

Tests of 840 samples of fencing material, including much woven wire and barbed wire, have been under way at the University College of Agriculture for seven years, says Prof. Burt A. Jennings. The work is in cooperation with the American Society for Testing Materials.

Galvanized wire samples under test at Cornell have weights of zinc coating from two-tenths of an ounce per square foot to two ounces per square foot of wire surface. Rust never attacks the wire until nearly all the zinc has worn away. The wire with the light coating of zinc may rust within two years, some of the heavily coated wire may be used for 20 to 25 years before it rusts.

Since zinc is now a scarce war material, the government has reduced the amount available to coat wire fencing. Farmers, it is pointed out, should at present buy no more fencing than is absolutely necessary, because it will have an extremely short life.

Science News Letter, April 1, 1944

MEDICINE

May Induce Cancer

Pituitary gland as well as ovarian hormones may be involved in breast cancer, experiments of transplanting various glands in mice indicate.

► **NEW EVIDENCE** of the importance in cancer development of factors which stimulate growth is reported by Dr. Leo Loeb, Dr. H. T. Blumenthal and Marian Moskop Kirtz, of Washington University School of Medicine. (*Science*, March 24)

Into hundreds of mice, these scientists transplanted various glands or combinations of glands from other mice. Some got transplants of ovaries only. Others got transplants of the forepart of the pituitary gland, the tiny gland in the head which produces many powerful hormones, including a growth-stimulating hormone. Still other mice got transplants of both ovaries and pituitaries.

Pituitary hormones as well as ovarian hormones, they found, would induce development of breast cancer in some of the mice. The pituitary gland transplants seemed to exert their effects on breast tissue by way of the ovaries. These glands, under the additional stimulus of the pituitary transplants, prob-

ably produce larger amounts of their own estrogenic hormones than they would otherwise do, the scientists suggest.

They conclude that "all those hormones or other factors which stimulate growth processes in an organ or tissue may thereby also affect the production of cancer."

Science News Letter, April 1, 1944

METALLURGY

Wartime Wire Fencing May Not Be Durable

► **THAT** the life of galvanized wire fencing depends on the thickness of the zinc coating has been proved by a series of tests just concluded at Cornell University. The zinc wears off at a regular rate.

The thinner the coating, the sooner the steel is exposed and rusting begins, causing the fencing to become brittle and weak.