

fewer mice; moreover, those tumors appeared at a later time than in the corresponding control group," Dr. Tannenbaum reported.

The reducing diet need not be started at a very early age in order to prevent cancer, the mice experiments suggest. It will be effective if started at any time before the cancers begin to appear.

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## Reduce Cystine in Diet

**A** DIET in which only one food chemical, cystine, is reduced to a very small amount will prevent the development in mice and rats of both cancer and the rapidly fatal, malignant blood disease, leukemia, Dr. Julius White, U. S. National Cancer Institute, reported.

Cystine is one of the amino acids, building blocks of protein long known to be essential to growth and for which scientists are now discovering other significance. Cystine differs from most other amino acids in containing sulfur.

On a low-cystine diet, liver tumors from the dye, butter yellow, develop in 70% instead of 95% of rats; leukemia induced by painting the skin with a coal tar chemical develops in 10% in-

stead of over 90% of brown mice; virgin female mice fail to develop any spontaneous breast cancers after 18 months, although ordinarily and when fed a high cystine diet, such cancers develop in 96% of the animals within 10 or 11 months.

These striking results in cancer prevention are due solely to lack of cystine and are probably not due to the growth-stunting effect of lack of this chemical, Dr. White declared.

There is no experimental evidence to indicate that this cancer- and leukemia-preventing effect of low cystine diets applies to humans, Dr. White stated. The experiments, however, show that it is not unreasonable to expect that the growth of cancer can be influenced by various types of dietary substances.

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## Two-Way Action

**C**YSTINE, choline, and certain other food chemicals alone or in combination may both prevent cancer and promote its development, according to circumstances, Dr. Dean Burk, National Cancer Institute, declared.

For chemicals with this two-way action, Dr. Burk and associates, Miss Juliet

M. Spangler and Dr. Richard J. Winzler, have coined the term "amphicarcinogen."

Whether an amphicarcinogen will act for or against cancer apparently depends on the amount of it in the diet, or in the body, in proportion to the amount of some other chemical. This amphicarcinogen idea suggests that dietary control of cancer, if it is possible at all, will very likely develop along lines of careful balance of various chemicals in food.

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### ENGINEERING

## Avert Threat to Health From Scarcity of Cork

**T**HE threat to the health of both civilians and soldiers through food spoilage for lack of cork from Portugal and Spain for cold storage insulation will be averted by a new product made of materials found plentifully at home, it was announced by the Owens-Corning Fiberglas Corporation.

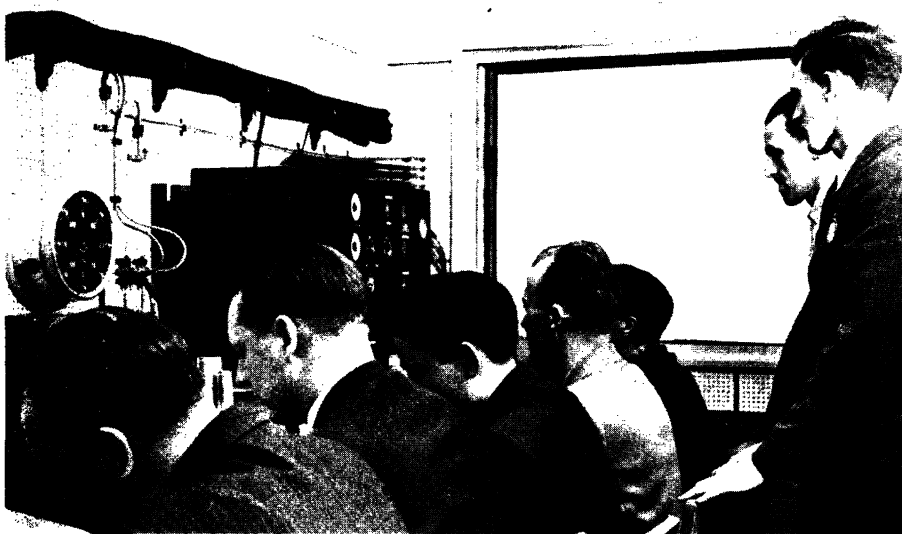
The new product is made of glass mineral wool, heavily coated with a durable asphalt that has a high melting point. The heat-insulating power of this product is equal to that of the best materials used for cold storage insulation. It is strong, moisture- and fire-resistant, odorless, immune to rot, fungus growth and vermin. It is also light, an important factor when used for roof insulation, since it permits a saving in the steel supporting structures, thus saving steel for the war program.

The need of insulating materials for the protection of perishable foods has never before been so great as now, with an army of several million men and a tremendous shifting population of war workers to feed, in addition to the usual civilian demands.

Low temperature insulation is needed not only for cold storage plants, of which many more will be built, but in the preparation and transportation by land and sea of perishable foods, and in the manufacture of frozen foods which are an important part of our modern diet.

Cold storage and roof insulation are required in military cantonments, in army ordnance factories, in chemical and steel plants, in factories producing airplanes, tanks and armored cars. Many chemical processes require accurate temperature control and therefore good heat insulation.

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**"FLIGHT CREW" ON GROUND**

These men are at the instrument panel of the test "plane" shown on the front cover of this week's *SCIENCE NEWS LETTER*. At Boeing's engine test laboratory this airplane engine, mounted on a section of airplane wing and fastened to a house that can be swung around with changing winds, shows performance under conditions of greatest strain—warm-up and takeoff. Ordinarily the test is run with engine headed into the wind as it usually is at takeoff, but tests are also made with cross-winds which cool some cylinders of a radial motor more than others.