



**VERSATILITY FOR MAGNETRON**—*The vacuum tube famous for its use in wartime radar, the magnetron, has been given new uses following the discovery of "voltage tuning" for it. Donald A. Wilbur and Philip H. Peters, of the General Electric Research Laboratory, who is holding the tiny tube of metal and ceramic disks first conceived the principal for voltage-tunable magnetrons in the late 1940's, and have worked on it since then.*

## TECHNOLOGY

## Grow Antibiotic Molds

► EIGHT WASHING MACHINES are being used at the Welwyn research laboratories of Imperial Chemical Industries in England for the culture of antibiotic-producing molds, needed for studying and combating diseases of human beings, animals and plants.

The idea of washing machines for this work first occurred to one of the research people about four years ago, and one machine was obtained for trials to see whether it would do the work. The problem was to stir constantly and aerate the solution in which the molds are grown.

The first machine proved satisfactory and has now run for some 7,000 hours, a period equal to about 70 years' domestic use. It is still running, and seven others were added later.

Each of the machines may be run without stopping for a period of from 50 to 1,000 hours; the latter figure being equivalent to six weeks' non-stop washing.

The eight machines are housed side by side together with other necessary apparatus. Their adaptation to their new purposes consists of connecting an air inlet pipe to the normal drainage outlet and fixing a special lid with five holes in it.

Two holes are to provide for the circula-

tion of water to a small heat exchanger immersed in the solution in the washing machine tub, to maintain it at a constant temperature which is approximately that of summer heat. One hole is for filling the tub with a solution of sugar, ammonium nitrate, phosphates and other food substances on which the mold is grown.

Another access is available in the lid so that samples may be taken during the experiment, and another hole is used to carry a glass pipe down to a bucket as an air exit and to carry off any overflow of "froth."

The heat exchangers of pairs of washing machines are supplied with a flow of constant-temperature water controlled by a large thermostat. There is other apparatus to supply the sterile and humidified air.

Seven different molds have been grown in the machines since they were adapted. Use of the machines has resulted in an eight-fold increase in the average yield of a particular antibiotic whose production has been investigated in these laboratories.

So far the machines have performed their job to the complete satisfaction of the research workers.

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## BOTANY

## Mail Carrier to Double As Pollen Carrier

► A LETTER CARRIER in Portland, Ore., will be doubling as a pollen carrier during tests to determine the concentration and geographical distribution of allergy producers.

The human bumblebee will wear glass slides smeared with petroleum jelly to help collect the pollen, while he is delivering the mail along his regular route. At the same time, a young lady working downtown in Portland will also act as a pollen collector. Stationary collectors on buildings throughout the city will be utilized too.

One purpose for the pollen collection, sponsored by the State Board of Health and the American Academy of Allergy, is to learn just how much relief allergy sufferers can expect from last year's frost, which reportedly reduced the amount of pollen that will be produced this year.

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## MEDICINE

## TB Unaffected By Pregnancy

► PREGNANT WOMEN who have tuberculosis should have their babies, Drs. Loren M. Rosenbach and Columbus R. Gangemi of Philadelphia report in the *Journal of the American Medical Association* (July 14).

The relationship between pregnancy and tuberculosis has long been a subject of controversy and, for more than 70 years, termination of the pregnancy has been recommended, the doctors state.

Now, however, a study of 152 tuberculous women who had 241 pregnancies over a 30-year period shows that pulmonary tuberculosis is not complicated by pregnancy and should not be considered a reason for ending the pregnancy.

"Certainly," the doctors report, "pregnancy would not be recommended in the active case, but, should it occur, therapeutic abortion is not indicated. Moreover, with proper medical treatment and obstetric care, there should be no deleterious effect from the pregnancy on the tuberculous process."

Of the women studied, Drs. Rosenbach and Gangemi found no change in the condition of 90.5% during or after pregnancy. Of the 241 pregnancies, 23 cases became worse and 19 improved during the pregnancy or in the year following. All improvements or relapses occurred in active cases of tuberculosis.

The doctors conclude that pregnancy "should not be considered a complication nor should it be looked upon with concern as a cause of progression of the disease."

Drs. Rosenbach and Gangemi made their study at the Henry Phipps Institute, University of Pennsylvania. Dr. Rosenbach is now assistant health officer of the Palm Beach County Health Department, West Palm Beach, Fla.

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