

MEDICINE

New TB Drugs On Trial

➤ **TUBERCULOSIS PATIENTS** and their relatives will have to wait several months before doctors can tell them the real value of the latest drugs as promising tuberculosis remedies.

Time is needed, according to one authority, to run animal cultures on material from tuberculosis patients getting the new drugs. Such cultures may take from six to 12 weeks.

Return of temperatures to normal, weight gain and a feeling of well-being are not considered sufficient evidence that a new drug has arrested or "cured" the disease in a patient. Counts of TB germs in the patient's sputum are not considered sufficient evidence either, because these may vary considerably from day to day even in patients not getting the new drug.

Three new drugs with four different names are currently heralded as promising much in the fight against the great white plague. One is a pyrazine chemical related

to nicotinic acid, or niacin, which is one of the B vitamins. This chemical is made by Lederle Laboratories under the name, Aldinamide. Successful use of it was announced at a Veterans Administration conference in St. Louis in January as reported by **SCIENCE SERVICE**.

The second new TB remedy is isonicotinic acid hydrazide. This is marketed by Squibb and Co. as Nydrasid and by Hoffman-La Roche as Rimifon.

The third drug, called Marsilid, is the isopropyl derivative of Rimifon. All three chemicals, with four names, are somewhat related. They are being tried in Veterans Administration and other hospitals, with reports varying from cautious to enthusiastic.

The drugs can be given by mouth, which gives them one advantage over streptomycin. TB germs may build up resistance to the new drugs, as they do streptomycin, but in that case it is believed other, related chemicals could be made and used.

Science News Letter, March 1, 1952

through the windshield when the glass gets too warm. The device also increases the current if ice begins to form.

Electrically heated windshields are being supplied by Boeing on its B-47 Stratofort bombers and C-97 Stratofighters.

Science News Letter, March 1, 1952

The supply of *aluminum* in 1951 fell far short of the demand even though the production of primary aluminum increased throughout the year and the recovery of aluminum from scrap was 26,000 tons more than in 1950.

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TECHNOLOGY

Better Windshield Safety

➤ **JUST AS** cracked windshields annoy automobile drivers and make driving hazardous, so they worry airplane pilots and make flying dangerous.

But pilots are more concerned about their windshields than the average driver. Airplane windshields often crack because of cold temperatures and faulty windshield de-icing systems which the driver does not have to worry about.

Research now has overcome most of the trouble, the Boeing Airplane Co. announced. Scientists found windshields cracked because of "hot spots."

Hot spots were caused by uneven applications of a 20-millionths-of-an-inch-thick layer of electricity-carrying stannic oxide which is sandwiched between the two plates of glass forming the windshield.

Research workers searched for a way to measure the stannic oxide thickness to discover hot spots before they could sabotage windshields. A quick thickness-testing method was developed.

Windshields also cracked because they got too hot. Boeing research workers licked that problem by rigging a device into the plane which cuts the electricity flowing

Question Box

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What is the shortest period known for a variable star? p. 131.

BIOCHEMISTRY

What new class of chemicals is anti-malarial in action? p. 136.

ELECTRONICS

What is a transistor? p. 138.

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TECHNOLOGY

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WILDLIFE

What is the most important news about whooping cranes? p. 140.

GENERAL SCIENCE

Hybrid Yeast Forms

Other Science Talent Search winners study soilless gardening, flat wall paints, learning rate of hamsters and luminescent glazes.

Talented youngsters from high schools throughout the nation are now in Washington for the Eleventh Annual Science Talent Institute, competing for top scholarship awards. For other reports of their achievements for which they were awarded a five-day trip to the nation's capital, see SNL, Feb. 23.

Tries to Hybridize Yeast

► AN INVESTIGATION into methods of producing hybrid forms of yeast was the scientific project of Wilma P. Laufer, 17, one of the top winners in this year's Science Talent Search.

Yeast, the Forest Hills (N. Y.) High School senior explained, is very difficult to hybridize. Some types are not capable of being hybridized. She worked with three types of lager yeast and two types of ale yeast.

She tried several methods of producing spores from the five different yeasts. Sporulation, she explained, is necessary to hybridization.

By only one method was a fair amount of spores obtained in all the yeasts. She concluded that the lager yeast differs from the ale yeast, in such ways as to indicate that some forms of the lager yeast have lost their ability to form spores.

Plants Without Soil

► PLANTS GROWN without soil can withstand transplanting better because they are able to produce better-developed root systems than do plants grown the old-fashioned way.

This is the conclusion of Mary B. Boat, 18, who has studied the soilless growth of radish seedlings.

The Poughkeepsie (N. Y.) High School senior divided her radish seeds into four groups. Three were raised by soilless culture, the fourth, a control group, was sown in soil.

Miss Boat kept records of the time of germination of the different groups of seeds, of the average heights of the seedlings, of the root development and the leaf color.

She found indications that soilless culture produced earlier germination, probably because less weight was bearing down on the seeds and more oxygen was able to get to them. Damping off, she said, was virtually eliminated in the three groups grown without soil.

The readily available food in the nutrient solution on which the soilless plants grew and the ease with which roots can grow in pure sand, vermiculite or water promote a compact root system, she pointed out, which makes for easier transplanting.

Constructs Counter

► EXPERIMENTATION with radioactivity was the scientific project of 17-year-old David Y. Smith, a Mont Pleasant (Schenectady, N. Y.) High School senior. He first became interested in radioactivity when, as president of his science club, he had to answer questions of the other members.

He constructed his own Geiger counter and then went about his home, listening for radioactivity. Outside of an occasional cosmic ray, all he found to activate his Geiger counter were the luminous paint on an old watch dial and the luminous end of an electric light chain.

So he bought some radioactive carnotite. With this he carried out two systematic

experiments: The relation of radiation intensity as a function of the distance from the source, and the relation of the absorbing power of the metal as a function of the thickness.

He plotted both experimental and theoretical curves on graphs to demonstrate these relationships.

Tests Wall Paints

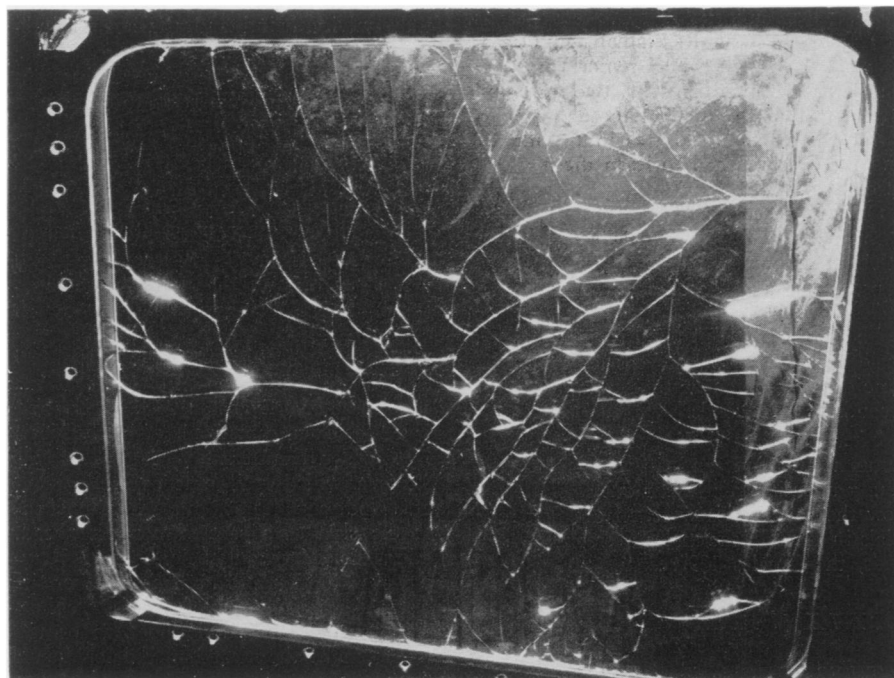
► RALPH E. GRISWOLD, 17, tested three kinds of flat wall paint to find out how they compared in durability, looks, resistance to water and other qualities.

The young scientist built several of his own instruments to make the tests. The three paints he tested were a standard oil-base flat wall paint, a latex-resin emulsion flat wall paint and a resin emulsion flat wall paint.

The Northside (Atlanta, Ga.) High School senior found that the standard oil-base paint had good brushing qualities and satisfactory hiding power. It took 23 hours to dry as compared with four and three hours for the latex-resin paint and the resin paint, respectively.

The resin paint, which is sold as a paste and is mixed with water, applies easily and demonstrates outstanding hiding power, the young scientist said. However, the surface qualities of the paint were unsatisfactory, he found.

The latex-resin paint, he reported, resisted soiling better than the other two, but



CRACKED WINDSHIELD—Uneven temperature distribution caused this electrically-heated windshield panel to fail during test flight on a Boeing C-97 Stratofreighter. Windshields have now been improved to eliminate this defect. (See opposite page.)