

MEDICINE

New Mold Remedy Found

Chloromycetin from soil belongs to the penicillin-streptomycin family. It is effective against the typhus and spotted fever group as well as parrot fever in lab tests.

➤ A NEW streptomycin-like remedy from a mold has been dug out of the earth. Epidemic typhus fever, Rocky Mountain spotted fever, scrub typhus and parrot fever, or psittacosis, are among the serious diseases which may be conquered by this newest member of the penicillin-streptomycin family of drugs.

Chloromycetin is its name. It was discovered by Dr. Paul Burkholder of Yale University in a sample of soil from a mulched field near Caracas, Venezuela. The sample of earth was one of hundreds collected from all over the world in a search for molds and fungi that might yield disease remedies.

Discovery of chloromycetin and preliminary tests of it are reported by Dr. Burkholder and Drs. John Ehrlich, Quentin R. Bartz, Robert M. Smith and Dwight A. Joslyn, of Parke, Davis and Co. Research Laboratories in the journal, *Science*, (Oct. 31).

Its effectiveness against the typhus and spotted fever group and parrot fever discovered by Drs. J. E. Smadel and E. B. Jackson at the Army Medical Department Research and Graduate School, Washington, is reported in the same scientific journal.

The Army studies were made with infected chick embryos and mice. Tests on patients have not yet been made and may not be completed for a year. Further lengthy and careful tests on laboratory animals must come first to learn whether chloromycetin is safe or too poisonous to give patients. Then enough of the chemical must be extracted from its earth mold producer to treat patients on a trial basis.

So far, the chemical seems safe. Large doses did not harm the mice and it could be given them either by mouth or by hypodermic injection. Excellent results were obtained even when the chemical was given as long as 10 days after mice had been infected with the typhus fever germs.

Rickettsialpox, a new disease discovered in New York last year, may also be treated successfully by chloromycetin, the Army laboratory studies suggest.

The good results in parrot fever are

impressive because this disease is caused by a virus and virus diseases, from the common cold to infantile paralysis, have been practically untouched by mold remedies or other chemicals. Chloromycetin was tried in mice with another virus disease, Japanese encephalitis, a kind of so-called sleeping sickness. It was not effective. Nor did it stop influenza A virus in chick embryos. It was also ineffective against smallpox virus in fertile hen's eggs.

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NUCLEAR PHYSICS

Rare Isotope of Helium Can Now Be Concentrated

➤ A RARE form of helium can now be concentrated by a single-step process, Ohio State University has revealed. It is

a process carried out at a temperature some 450 degrees below zero Fahrenheit at which ordinary liquid helium takes on some peculiar properties.

Helium is the exclusively American non-combustible gas used in balloons. It is extracted from natural gas in Texas and New Mexico. The newly concentrated form is the mass 3 isotope of the substance, which exists normally in the proportion of only one part to a million of the normal mass 4 isotope. Isotopes are forms of the same element which differ in mass but are ordinarily identical in other characteristics.

At extremely low temperature, down close to absolute zero which is approximately minus 460 degrees Fahrenheit, liquid helium has the ability to climb up the walls of its container. The single-step process depends on this property. The ordinary mass 4 isotope climbs, the mass 3 isotope remains behind, thus becoming concentrated.

The discovery was made by Drs. J. G. Daunt, R. E. Probst and H. L. Johnston, of the university staff, working on a helium project for the Office of Naval Research. The new process will probably be of value in the nuclear field.

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JUDGING ENTRIES—How the winners were picked for the Photography in Science Exhibition being held at the Smithsonian Institution Nov. 1-30. Its purpose is to extend the possibilities for developing photography as a basic tool in research and teaching. [See pages 294 and 295.]