

MEDICINE

Sulfa for Undulant Fever

Whole blood, that contains new antibodies, is given patients. Theory is that the drug fights disease by increasing the action of the antibodies.

► **NEW TREATMENT** which may save the lives or relieve the suffering of victims of undulant fever was described to the Fourth International Congress for Microbiology by an American scientist.

The treatment is a new use of the famous sulfa drugs. Dr. I. Forest Huddleson, Michigan State College bacteriologist, told the Congress that four persons near death with high fever from the disease had recovered after receiving the new treatment.

Dr. Huddleson injects blood into the system of the patient and then administers small doses of sulfadiazine for one week. He believes the principle of the treatment may be used to save the lives of sufferers of many other infectious diseases.

Undulant fever is also called Malta fever, brucellosis and Mediterranean fever. Human victims get the disease from cows, goats or pigs. It may come from drinking the unpasteurized milk of cows which have the disease. Persons with undulant fever are subject to re-

curring attacks which cause considerable disability though the disease is seldom fatal.

Earlier experiments with sulfa drugs against undulant fever were unsuccessful, and there was little hope of curing the patient unless he was treated within 10 days after contacting the disease.

Dr. Huddleson explained his theory that the drug fights disease by increasing the action of antibodies in the system of the victim. When the patient has had the fever for several weeks, the antibodies become inactive from the disease and are not aided by the drug. This, he said, accounted for the lack of success in treating undulant fever with sulfa drugs in early experiments.

Injecting whole blood into the patient supplies fresh antibodies to fight the disease. Then Dr. Huddleson administers sulfadiazine to the undulant fever sufferer.

He hopes to develop a compound in which physicians can give undulant fever victims both the antibodies and the drug without using whole blood.

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whole strongly and permanently bonded with a resin. The use of plywood in planes is not new, but it has been mostly in light aircraft.

The Hughes Aircraft Company, builder of the Hercules, was organized in 1936 by Howard Hughes to develop a racing plane with which he had already established a world record. It was a modified version of his original plane with which he made a non-stop flight in 1938 across the country in seven hours and 28 minutes.

In 1939, the company started development work with plastic materials for plywood airplane construction. In 1942, Mr. Hughes joined with Henry J. Kaiser to build three experimental cargo flying boats for the U. S. government. They were to be eight-engine planes of original design, made of wood because of a scarcity of suitable metals. The order was cancelled in 1944, partly because of delays in starting construction and partly because metals for construction were then available.

The Hughes company produced a high-speed, twin-engine experimental plane in 1944. From this was developed a military reconnaissance monoplane which carried the Army designation XF-11.

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CHEMISTRY

New Insecticide Claimed Safe for Vegetable Use

► **CORN - ON - THE - COB** without worms is the promise of a new insecticide now undergoing field tests. Rhothane is the trade-name of the new product, which is a close chemical relative of DDT but claimed to be so much less toxic to human beings and farm animals that it is safe to put on vegetables intended for table use.

U. S. Department of Agriculture entomologists state that the new insecticide differs from DDT in having one atom less of chlorine. DDT is dichlorodiphenyl-trichloro-ethane. Rhothane is dichloro-diphenyl-dichloro-ethane. That is, its initials are DDD instead of DDT.

Another claim advanced on behalf of Rhothane by Rohm and Haas Company, its sole manufacturers, is that it is less toxic to fish, so that it may meet the wishes of wildlife administrators for a material that can be used against mosquito larvae without harming the fish that swim in the same waters.

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AERONAUTICS

Giant Plywood Seaplane

► **THE GIANT** Hughes Hercules flying boat, the building of which with government money is now raising questions on the part of Congressmen, is a seaplane with some four times the estimated carrying capacity of the war-tested veteran Martin Mars. Its actual capacity is not known because the airplane, while reported to be afloat on the water, has not yet even been given taxi-tests on the water's surface.

The surface tests will be given soon, it is said, but only after engineers have completed making thorough tests with various testing instruments of its component parts, both by themselves and as a part of a whole. These tests have largely to do with the proper functioning of the parts under all conditions and particularly under the stresses to which they will be subjected in use. No

promises have as yet been made when surface tests will begin, or when a try-out will be attempted in the air. It is now about two years behind the date on which it was to have been completed.

This Hughes flying boat has a wingspread of 320 feet, and a 220-foot-long hull. The Martin Mars was 200 feet in wingspread and about 117 feet in overall length. The newer Mars, JRM in the Navy, is about the same size, but has certain refinements. The original Mars on one trip carried 35,000 pounds of cargo.

Size alone is not the only point of interest in the eight-engine Hercules. It is of plywood construction rather than of the usual light metals such as aluminum and aluminum alloys. This plywood is built-up panels and beams of very thin sheets of wood with each alternate sheet laid crosswise, and the