MEDICINE

Malarial Volunteers

More than 200 volunteers in federal and state prisons are taking part in tests of new drugs; follows historic yellow fever studies.

➤ FOLLOWING in the footsteps of the American soldiers who nearly 50 years ago voluntarily risked yellow fever death to help conquer that deadly plague, more than 200 volunteers in federal and state prisons have been playing the roles of human guinea pigs for final testing of new antimalarial drugs.

Announcement of this phase of our war on malaria comes from the committee on information of the division of medical sciences of the National Research Council.

The tests as well as preliminary studies leading to development of new antimalarials and their testing on birds and monkeys have been under the supervision of the board for the coordination of malarial studies, a joint body composed of representatives of the Army, Navy, Public Health Service, Office of Scientific Research and Development and National Research Council.

Results of the tests, started last March, are not given in the detailed announcement of how they are carried out. The three institutions from which prisoners have volunteered are the U. S. Penitentiary at Atlanta, Ga., the Illinois State Penitentiary at Joliet, and the New Jersey Reformatory at Rahway.

Some of the prisoners will undoubtedly get malaria, since a certain number must be left untreated to make sure the mosquitoes that bite them and the other volunteers actually are carriers of the disease. The others may or may not get malaria depending on the efficacy of the new remedies being tested. Those getting the remedies, especially those used to test for best dosages, run the risk of getting sick from the drugs if they turn out to be more toxic than expected.

The testing program grew out of the military importance of malaria in the present war and the need for more effective weapons against this disease than those now available.

"Quinine and atabrine," the announcement explains, "are very efficacious drugs in suppressing the clinical attacks of vivax (benign tertian) malaria, but neither is capable of eradicating the disease completely once a person has become infected. The large number of men returned to the United States with recurring attacks of this type of malaria attest to the incomplete worth of available drugs against this disease.

"In the field of mosquito-killing agents the recently discovered compound DDT has been phenomenally effective, but no insecticide has yet been found which can kill all mosquitoes under all situations. Engineering control methods, although effective in local areas, are too costly to be the complete answer to malaria in the tropics.

"The highest hope, therefore, is for a specific drug that will actually cure or prevent malaria."

Science News Letter, March 17, 1945

CHEMISTRY

Helium Storage Reservoir

➤ A GIGANTIC underground helium storage reservoir will soon be in use in the 50,000-acre government-owned Cliffside natural gas field near Amarillo, Texas, to hold for future use surplus helium gas not now needed by military and other government agencies, or by American industries. A new pipeline, 32 miles in length, now connects the government helium plants at Exell, and Amarillo, Texas, and extends to the oil-field reservoir. The surplus gas will flow through these pipelines to the natural underground storage place.

The helium piped back into the ground must be repurified later when it is withdrawn for use, but the gas taken from the cache will be richer in helium content.

Since 1923 the Cliffside field has produced enormous quantities of natural gas from which millions of cubic feet of helium gas were separated by the U. S. Bureau of Mines, and up until the present war was the principal source. The Bureau now operates five plants, and is producing 25 times as much helium as in prewar days. This accounts for the surplus. The government is the only producer of this valuable gas.

Helium has a wide variety of military uses and is also used widely in scientific and industrial operations, a use that undoubtedly will greatly expand after the war. It is used principally in balloons and airships to replace hydrogen because it does not burn. It is so inactive chemically that it has no compounds. Flaming bullets or atmospheric electricity have ignited hydrogen in balloons and dirigibles, but never helium. A mixture of 80% helium and 20% hydrogen is noninflammable. Helium has twice the density of hydrogen, but its lifting power as used in airships is over 90% as great.

An important use of helium in industrial operations is in welding, to protect the parts being welded from oxidation or other chemical reaction. It has lately been used experimentally in the treatment of asthma.

Science News Letter, March 17, 1945