

## Do You Know?

*Jeeps*, with flanged steel wheels, are used as switch engines in Australia.

*Rattlesnakes* are peculiar to the New World, their distribution ranging from southern Canada to southern Brazil.

Hibernating *fish* always head into flowing water, and tend to keep the same relative position in the water all through the winter.

Scientists offer little hope of synthetic rotenone or pyrethrum, essential *insecticides*, because of their complicated molecular structure.

Synthetic rubber flexible *hose*, which resists oil and other deteriorating liquids and seals itself when hit by gunfire, is now used in warplanes.

Daily commercial *airplane* service, recently established between the United States and Alaska, puts Seattle and Fairbanks only 13 hours apart.

Marmink fur in ladies' coats is mink-dyed *muskrat* fur, marsh rabbit meat sold in markets is muskrat flesh; muskrats when dead thus seem to "lead a double life."

*Australia*, with a population of 7,000,000, is now feeding 12,000,000 persons; all servicemen of the United Nations in the southwest Pacific are fed by Australia and New Zealand.

The flightless *dodo* bird, of Mauritius island near Madagascar, became extinct before 1700 A.D., less than a century after its discovery, because three or four of the birds furnished a meal for a whole ship's crew.

*Insecticides* for farmers and Victory gardeners probably will be more plentiful next year than this because of increased supplies of rotenone from Latin America and the development of satisfactory substitutes grown in the U. S.

The inoculation of soil infested with grubs of *Japanese beetles* with "milky disease" will reduce the beetle population; the milk disease organism, it is found, builds up in the soil and spreads from treated to untreated areas by natural means.

### MEDICINE

## Remedy for New Disease

**Toxoplasmosis, almost invariably fatal ill, similar to encephalitis or spotted fever, may be treated with sulfa drug which cured mice.**

► HOPE that toxoplasmosis, a new and almost invariably fatal disease, may be cured by sulfapyridine appears in a report by Dr. David Weinman and Dr. Robert Berne, of Harvard Schools of Medicine and Public Health. (*Journal, American Medical Association*, Jan. 1)

Sulfapyridine cured mice with this disease at the rate of 95 out of 100, although only 17 out of 100 animals survived without this treatment, the Harvard scientists report. Some animals were cured even when treatment was started as late as 13 days after they got the disease, and within three days of their expected death from it.

The results seem to warrant use of the sulfa drugs in human cases of acute toxoplasmosis, the physicians state.

Toxoplasmosis is a relatively new disease of humans. Before 1939 scientists generally rather doubted that it occurred

in man, although a variety of animals had been attacked by the large, one-celled parasite, called *Toxoplasma*, which causes it.

Children attacked by it have convulsions, fever and disorientation and may be thought to be suffering from encephalitis, popularly termed "sleeping sickness." In adults the disease might be mistaken for Rocky Mountain spotted fever, endemic typhus fever or even atypical pneumonia. Rash, fever and lung involvement were the outstanding features in adult cases reported.

Some doctors believe the malady is rare while others think it may occur more often than is realized because it may be mistaken for other ailments. Heretofore there has been no specific cure for the condition in man, the patients usually dying within a few days after symptoms first appeared.

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### BACTERIOLOGY

## Struggle in the Soil

► PENICILLIN and similar germ-killing compounds produced by soil-inhabiting molds and other lower plant forms aren't in business just for our health. They are first beneficiaries of their own poison-making proclivities, for the germicidal substances serve as chemical warfare weapons, to clear away other microscopic organisms in the upper layer of the soil, where competition for living space is intense.

A picture of this function of penicillin and its kin-chemicals was presented before the Torrey Botanical Club in New York City by Dr. Charles Thom, veteran researcher in molds and related lower plants, recently retired from the U. S. Department of Agriculture after many years of service.

In every teaspoonful of soil, Dr. Thom pointed out, there are "hundreds of millions of bacteria, millions of actinomycete elements, hundreds of thousands of mold elements, tens of thousands of protozoa and hundreds of nematodes and other

wormlike animals. In such competitive environments, a soft-walled mold like *Penicillium notatum* needs protection comparable to a tank in human warfare if it is to maintain itself."

Germ-killing compounds have so far been isolated from three major groups of soil microorganisms: bacteria, molds and actinomycetes. The latter are a kind of "in-between" class of lower plants, that are neither exactly molds nor fungi, though they have some resemblances to both.

The discovery of the high medical value of penicillin has stimulated very active research on all kinds of soil microorganisms, in the hope of finding other compounds, possibly still more potent in the destruction of bacteria in the human body, with the apparently total absence of undesirable after-effects that has made penicillin almost an elixir of life when used in time against certain kinds of disease bacteria.

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