

## Do You Know?

Over 1000 factories in Brazil are now making *chemical products*.

Ireland is now raising *bamboo cane* for brush-making, to replace Jap cane.

Mexico is actively looking for *petroleum deposits* for the first time in six years.

Approximately 500,000 barrels of 100-octane *aviation fuel* is produced in the United States daily.

*Buses* now carry more than half the total number of persons transported by intercity public carriers in the United States.

*Dry yeast* prepared from cellulose has been on trial for several months in Sweden as a substitute for meat, it is reported.

Cuts and wounds on oak trees, properly treated with *lanolin*, or wool grease, heal in half the time required by untreated wounds.

An airplane shipment of 10,000 *bees* to Fairbanks, Alaska, from Seattle, Wash., successfully completed, was made to aid in the pollinization of Alaska's increasing farm crops as well as to produce local honey.

MEDICINE

# Leukemia Weapon

Radioactive sodium used in experiments on laboratory mice reduced the white blood cell count. Work has not advanced to the point of treating humans.

► THE SEARCH for a more effective weapon against leukemia has led scientists at Columbia University College of Physicians and Surgeons to investigate radioactive sodium.

The work has not advanced to the point of treating patients, but the effects of this chemical in laboratory mice were reported by Dr. Edith H. Quimby and Dr. T. C. Evans at the joint meeting of the American Roentgen Ray Society and the Radiological Society of North America, in Chicago.

Familiar to the layman in salt, sodium is one of the elements most readily prepared in its radioactive form in the cyclotron. In the radioactive form, known as radiosodium, it emits penetrating beta- and gamma rays. It has a half-life of 14.8 hours.

Sodium is a normal component of body fluids and if the radioactive form is injected under the skin it is soon distributed uniformly throughout those fluids, including the milk in nursing mothers. The material was found in baby mice within one hour after it had been given to the nursing mothers. The whole body of the animal is irradiated

during the time the material remains active in the tissues.

Unlike radioactive phosphorus, which has been tried in the treatment of patients with leukemia, radioactive sodium is not concentrated in any organ, nor does any organ or tissue show striking lack of the material. Radioactive phosphorus has been found concentrated in the white cells, bone marrow and spleen of leukemic mice.

The general radiation effects of radiosodium are similar to those obtained by X-radiation of the whole body. In normal animals the decrease in white blood cells could be related to the dose of the radiosodium.

A marked increase in white blood cells is one of the characteristics of leukemia. In leukemic mice with moderately high white counts the white cells were found very susceptible to radiosodium. A small dose, 200 microcuries, produced a drop from 35,000 to 9,000 white blood cells in two days. A dose of 500 microcuries produced a drop from 35,000 to 4,000 white blood cells in two days and to 1,500 in four days. The white blood cell counts in the leukemic animals drop more rapidly and lower than in normal mice, but also appear to return to the former levels more rapidly.

Lymph nodes, enlarged in leukemia, show fairly constant regression under the action of the radioactive sodium.

*Science News Letter, October 7, 1944*

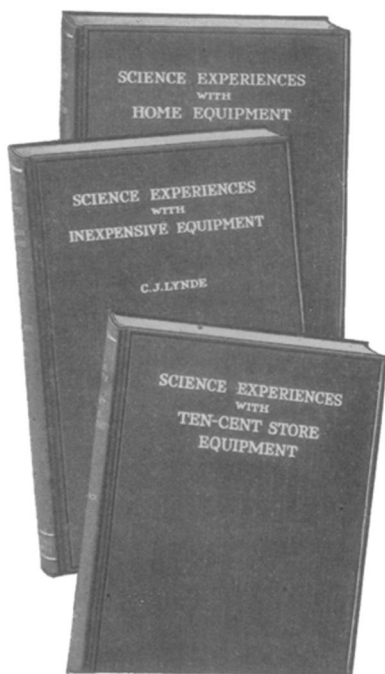
## X-Ray Controls Leukemia

► "STRONG evidence" that leukemia can be controlled with small doses of X-ray treatment and that the average longevity cycle is much greater in patients so treated was found by Dr. Bernard P. Widmann of Philadelphia in a study of more than 100 patients.

Many other factors which cannot be evaluated also play a part in the good results obtained, he pointed out.

*Science News Letter, October 7, 1944*

A ton a day of *citric-acid* crystals is the expected output of a new plant at Fazenda, Brazil.



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