

work on the atom bomb started and against which the workers were protected.

"Present or prospective workers in the new field of atomic energy should be caused no anxiety," Dr. Paul S. Hen-

shaw, of the Clinton laboratories, declared reassuringly.

The exposure to radiations required to induce cancer in animals, he reported, is far above the permissible levels allowed Manhattan Project workers.

Science News Letter, December 14, 1946

the blight to become the tomato-attacking strain.

One reason for the wholesale losses in this year's tomato crop was lack of equipment for spraying and dusting the fields with fungicides. As a desperate resort, airplane dusting was tried on a number of fields, but little success was reported.

Science News Letter, December 14, 1946

MEDICINE

Uranium Toxic to Body

► URANIUM poisoning of the kidney is a hazard facing atomic power workers unless suitable precautions are taken.

The chemical toxicity of uranium is a greater danger than the radiation hazard of the element itself before fission. The public has heard little of this chemical hazard but it was given full attention by the group protecting the health of the atom bomb workers, Dr. Andrew H. Dowdy, radiology professor and Manhattan department director at the University of Rochester, reports.

One of their first problems was to devise a reliable method for detecting uranium in very small quantities. One part of uranium in 10,000,000 parts of animal tissue, blood or urine can be accurately measured by the method they developed, Prof. Dowdy reported to the American Public Health Association. Its presence can be detected in such small amounts as 1/2,000,000,000 of a gram.

A gram is about a thirtieth of an ounce.

The poisonousness of uranium varies to a certain degree, though not entirely, with the solubility of the compounds. These may be found in the form of dusts or gases.

Many of the uranium compounds may be absorbed into the body through the skin, by way of the lungs or from the stomach and intestines by being swallowed.

Protection against uranium poisoning consists in completely closed systems, adequate ventilation systems to evacuate harmful agents from the atmosphere, gas masks, and special procedures for laundering the work clothing of plant personnel.

Personal hygiene and rigid medical supervision to detect small amounts of harmful substances in the excreta of personnel are important for health protection.

Science News Letter, December 14, 1946

Brazil is forging ahead in rice production; its 1946 crop, harvested from March to May, is about 115,000,000 bushels, against 103,000,000 bushels the previous year and far more than in pre-war years.

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PLANT PATHOLOGY

Fungus Ate 1946 Tomatoes

► THE SAME DEADLY fungus that caused famine in Ireland a hundred years ago by wiping out the potato crop will make canned tomatoes and tomato juice harder to find this winter at your grocery store.

An unexpected attack of the late blight of tomato sneaked up on American tomato fields this year just as they were about to produce a bumper crop of red fruits for canning and juice. It caused losses as high as nine-tenths of the potential yield in some commercial fields, and diminished the returns by half or more in eight eastern seaboard states. This is another strain of the death-dealing blight that visited Ireland a century ago.

A United States Department of Agriculture survey of the lost battle against the tomato late blight this year shows that the heaviest damage was concen-

trated in the chain of states along the Atlantic Coast from Virginia to Florida, together with Pennsylvania, Delaware and Rhode Island. In these states, more than half the potential crop was lost.

The deadly fungus, *Phytophthora infestans*, has damaged potatoes in this country as well as causing the common late blight and tuber rot in Irish potatoes. But where it attacks potatoes, it frequently does little or no damage to neighboring tomatoes. It takes seven successive generations of the potato menace for it to develop into the tomato late blight.

A generation requires a minimum of three days from the time the potato late blight has infected the tomato leaf or fruit, a lesion has been formed and spores have been produced. Favorable weather, cool wet nights and warm days, for 21 successive days are necessary for