

PUBLIC HEALTH

Fallout Danger Cited

Fallout should be watched and controlled as much as possible as it increases in intensity each year, one expert has warned. Fallout measurements being made in next few months.

► THE INVISIBLE rain of radioactive particles from H-bombs exploded by the U. S. and Russia is increasing in intensity each year, figures prepared by Atomic Energy Commissioner Dr. Willard F. Libby show.

Because the biological effects of the increasing fallout on the world's population are largely unknown, "care and caution" must be taken in adding to radioactive contamination of the atmosphere, Dr. Libby reported in a speech at the University of Washington, Seattle, delivered in his absence by Dr. J. Calvin Potts, special assistant. (See p. 205.)

Dr. Libby predicted the major questions concerning how and when fallout occurs will be answered by measurements made during the next weeks and months, but the "tremendous problems" of biological consequences will remain. Therefore, fall-

out should be watched and controlled as carefully as possible.

Dr. Libby believes that the radioactive material introduced into the earth's high atmosphere, or stratosphere, when H-bombs are exploded, mixes rapidly, then leaks down uniformly over the world. This fallout each year is 16% of the total accumulated in the stratosphere and seeps into the troposphere, about the first 40,000 feet of atmosphere. Radioactive debris is removed from the troposphere in about one month by normal weather processes and by striking the surface of trees, grass and other features.

A "tremendous rise" in fallout rate occurred in October, 1958, Dr. Libby found, due to the Russian test series in the polar regions. Measurements after those tests and the U. S. ones of the Hardtack series in which special isotopes tungsten-185 and

rhodium-102 were added, will show the mechanism by which the fallout reaches the earth's surface.

Dr. E. A. Martell of the Air Force Cambridge Research Center suggests the increases in fallout rate that have occurred each spring for several years are due largely to Russian tests, which have spewed debris into the lower and intermediate levels of the stratosphere where the radioactive materials remain only about six months. The measurements now being made will show whether this theory is true, and they may also show how much the Russian tests have contributed to worldwide fallout. Dr. Martell's theory will be reported in *Science*, according to Dr. Libby.

Science News Letter, March 28, 1959

PHYSICS

Charged Waves Cause Electric Sparks

► AN ELECTRIC spark, called "the least understood of all physical phenomena" has been found to be produced by a series of electrically charged waves, which sweep rapidly back and forth to build up a channel to carry the current. Dr. Leonard B. Loeb of the University of California, who reported this finding to the American Physical Society meeting in Austin, Texas, used an "electric eye" and new ultra-fast measuring equipment in his research.

In the past, he said, before development of these powerful new devices, it would have been impossible to measure the waves that caused a one-inch electric spark.

Science News Letter, March 28, 1959

BOTANY

Trailing Arbutus Marks First Arrival of Spring

See Front Cover

► CLUSTERS of delightfully fragrant white or pink flowers are among the first harbingers of spring. The trailing arbutus or mayflower is usually found on the borders of rocky woods and hillsides in the very early spring.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows a close-up of the delicate flowers, their large broad leaves and hairy stems. The plant, *Epigaea repens* as it is called scientifically, should not be picked since it is one of our disappearing wildflowers.

Trailing arbutus is found in the northeastern states, with a range from Newfoundland to Florida and Kentucky.

The plant, which belongs to a group of evergreen perennials with woody creeping stems, can be grown in the garden if given acid soil and shade and if their natural conditions are imitated. Propagation by seed is much more satisfactory than by division. Seeds should be sown as soon as they are ripe.

A closely related flower, *Epigaea asiatica*, is found in Japan. It differs in part from the trailing arbutus in the shape of its leaves which are basically oblong.

Science News Letter, March 28, 1959



AIR SAMPLER—A weather blimp is being sent aloft, carrying air sampling devices. A General Electric Company meteorologist guides the blimp. Smoke is emitted from the 410-foot weather tower by a machine that breaks oil into a fine spray. By collecting samples at varying distances from the tower, meteorologists can determine the most favorable conditions for releasing radioactive particles into the atmosphere from exhaust stacks at G-E's Hanford atomic plant in Richland, Wash.