METEOROLOGY

U. S. To Probe Rainmaking

Study will tell whether those who have been buying rain have been gypped. Total rainfall measurements over 17 western states, including seeded areas, will be made.

➤ THE U. S. Weather Bureau is embarking on a study to find out whether thousands of farmers and ranchers in 17 western states who contracted for rainmaking on 300,000,000 acres at a cost of more than $3,000,000 this year got their money's worth.

The study will measure actual rainfall over the whole area and actual rainfall over the areas where clouds were seeded to produce rain. These seeded areas amount to about 13% of the total area of the nation. Rainfall in seeded areas will be compared with normal rainfall expected in the areas as well as rainfall in unseeded areas.

Thousands of ranchers, farmers and cattlemen in the West have banded together to pay for artificial increase in rain—mostly with the Water Resources Development Corp., Pasadena, Calif., of which meteorologist Irving P. Krick is the head. Other farmers have bought generators of their own, and small companies are operating over the entire West.

Meantime, other attempts to evaluate the work of the rainmakers will be going on. Already, scientists at Colorado A. and M. have reported that seeding in a test area in northern Colorado produced no apparent increase in rainfall. The University of Wyoming is launching a study of rainmaking in that state and the California legislature has appropriated $50,000 for a study of the effects of cloud-seeding.

In many areas in the West, there is some dissatisfaction with the rainmakers, but not, apparently, based on a disbelief in their ability to make rain. Some farmers who want dry weather for particular crops, object to the farmers and ranchers who band together to pay for rainmaking efforts.

However, in New Mexico, where Dr. Krick claims the entire state is under contract to him, promises that the drought would be broken before the end of July were not kept. Dr. Krick explained that he could only increase the natural amount of rain when there were clouds to seed. He pointed out that there had been no clouds.

On the other hand, Dr. E. W. Workman, president of the New Mexico School of Mines, originally an enthusiast for cloud-seeding, has become much more conservative about the possible effects of injecting silver iodide particles into clouds.

Weather Bureau scientists point out that rainfall varies so much from season to season and from area to area that it will be difficult to provide a definitive answer to the questions connected with rainmaking until ten or so years have gone past. However, they believe they can come up with a partial answer when this survey is finished.

Science News Letter, October 6, 1951

MEDICINE

Ready Cobalt 60 Machine For Treatment of Cancer

➤ HIGH-POWERED radiation treatment of cancers deep within the body will be available in more hospitals throughout the country in the future, thanks to development of a machine for using radioactive cobalt in the way X-rays are now used.

First such machine, called the cobalt 60 cancer tele-therapy unit, was shown to radiologists at the meeting of the American Roentgen Ray Society in Washington.

Cobalt 60 is made by irradiating ordinary cobalt in an atomic pile at Oak Ridge, Tenn. Heretofore it has been used in so-called needles, to be inserted surgically in the body, and in nylon thread stitched in place for treatment of skin and other superficial cancers.

With the new machine, the high energy radiation of radioactive cobalt is used at a distance from the patient, as X-rays are. The cobalt 60 machine gives radiation equivalent to that from a two-million-volt X-ray machine, but will do it less expensively. The cost of the new machine has not been released by its manufacturers, General Electric, but the cost of the cobalt is estimated at $18,000. Enough radium to do the same job would cost $26,000,000.

The cobalt unit head is only three feet long and 13 and one-half inches in diameter. Heart of the machine consists of four "wafers" each about an inch square and three-eighths of an inch thick. After irradiation for about a year in the pile, the radioactive cobalt wafers are loaded by remote control, under nine feet of water, into the container for the treatment machine.

Collaborating with General Electric in developing this new cancer-fighting weapon were the late Dr. Leonard G. Grimmett, British-born physicist, and the M. D. Anderson Memorial Hospital at Houston, Tex., where it will soon be installed, the Atomic Energy Commission, the Oak Ridge Institute for Nuclear Studies and the Damon Runyon Memorial Fund for Cancer Research.

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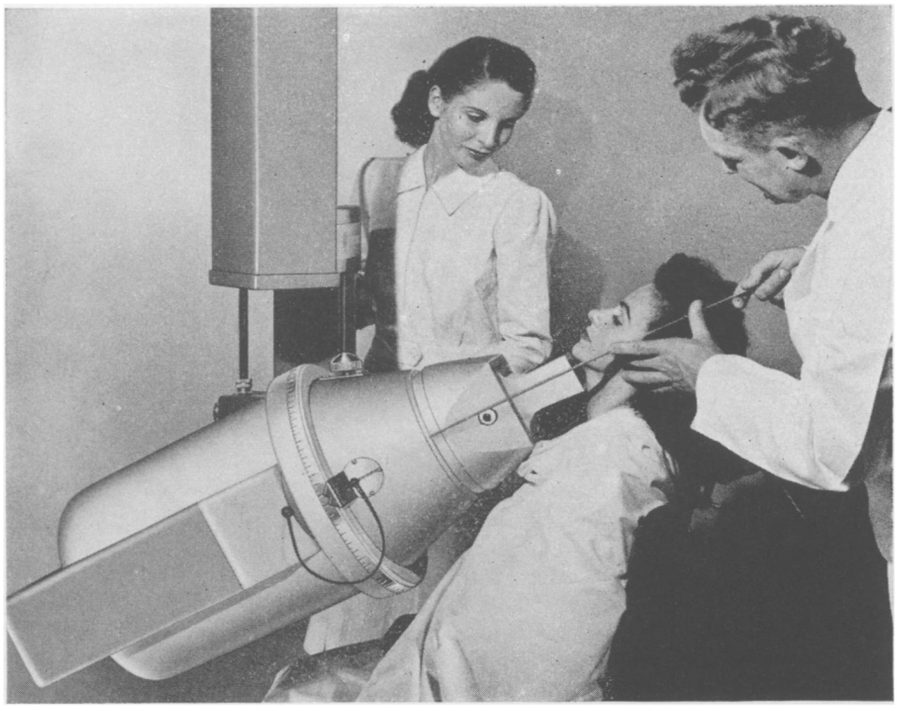

COBALT 60 MACHINE—Shown here is General Electric's tele-therapy unit—a machine that, instead of X-rays, uses four tiny "wafers" of radioactive cobalt giving off high-powered, penetrating radiation. Enough radium to give off the same amount of radiation would cost $26,000,000. Cost of the cobalt wafers is estimated at $18,000.