

## METEOROLOGY

# Report on Rainmaking

► THE WEATHER Bureau made the first public report on its two-year cloud seeding project in Washington State. But Ferguson Hall of the U. S. Weather Bureau in Washington firmly refused to admit either success or failure of the effort to increase rainfall with dry ice until further evaluations had been made.

"Because of our limited ability to estimate the rainfall that would have occurred in the seeded area if dry ice had not been used," he said, "it is possible that seeding effects could have been produced and still have been hidden by natural variations in rainfall."

None of the evaluations made so far, Mr. Hall pointed out, excluded the possibility that effects as great as a 15% increase in precipitation were produced in the target areas under observation, usually about 100 miles long.

There was, he said, apparently a slight negative effect, with seeded areas getting a tiny bit less rain than the control areas.

Chance, the perversity of nature in showering so much rain on control areas that it drowned out any real increase due to seeding in the test areas, could give this effect, Mr. Hall noted.

More definite results may be available by summer, when the information has been analyzed further, including possible increases in rainfall of a highly local nature.

The seeding operations were made during the spring of 1953 and from September, 1953, to May, 1954, over Washington State. Dry ice spread by airplanes was used to insure that the exact location and time of seeding was known. Dry ice is thought to be effective over a wider temperature range than silver iodide, also often used in "rain making."

When suitable cloud formations, usually of the type associated with winter storms, were spotted, an airplane was sent up to make its run. To guard against bias in the test, dry ice was sprinkled only if instructions, contained in a sealed envelope and prepared previously by another government agency, so directed.

Exactly the same measurements were made whether or not the clouds were actually seeded. A total of 60 flights gave 35 with appropriate test conditions. Seeding took place during 22 of these, the other 13 serving as controls.

Rainfall was recorded by 100 gages located in an area about 100 miles in diameter. Two radar sets were used, one to keep a continuous record of clouds over Hoquiam, on the western Washington coast, and the other to spot rain formed during the seeding operations.

"Our survey of clouds, their types and structure, and how many are ripe for seeding, will be one of the most valuable results of this research," Mr. Hall said.

Meteorologists meeting in New York

noted that the Advisory Committee on Weather Control announced in Washington that persons attempting to modify the weather now have to submit monthly reports on their operations to the committee for evaluation.

The Weather Control group was set up to recommend to the President and Congress the extent to which the Federal government should experiment with, engage in or regulate attempts to increase precipitation or otherwise affect the weather. It is headed by Capt. Howard T. Orville, retired Naval officer now affiliated with the Friez Instrument Division of Bendix Aviation, Baltimore.

Science News Letter, February 5, 1955

## MEDICINE

## Cortisone, Production of Digestive Enzymes Linked

► CORTISONE, FAMOUS anti-arthritis drug, and some of its fellow hormones of the adrenal glands are important for the production of food-digesting enzymes in the body, Dr. Burton Baker of the University of Michigan Medical School, Ann Arbor, reported at a conference at the New York Academy of Sciences in New York.

When these hormones are lacking, the cells of the stomach which supply the enzyme, pepsin, shrink and lose their ability to make this digestive chemical. Cortisone also, Dr. Baker said, has the power of restoring the pancreas which makes digestive enzymes for the intestines.

Besides the adrenal hormones, pituitary gland hormones are important in regulating the digestive enzyme producing cells, Dr. Baker finds.

The thyroid gland in the neck also seems to be involved.

Science News Letter, February 5, 1955

## ARCHAEOLOGY

## Man's Oldest Settlement Is Unearthed in Iraq

► M'LEFAAT, IN northeastern Iraq, is the oldest "town" in the world, the earliest place discovered where early man more than 7,000 years ago turned from nomadic hunting to agriculture. This transition is considered the first great revolution in man's history.

A University of Chicago expedition headed by Dr. Robert J. Braidwood of the Oriental Institute has just discovered this permanent settlement older than Jarmo, also in Iraq, which heretofore has been considered the oldest settled village unearthed by archaeologists, dated at about 5,000 B.C.

The more recently discovered settlement at M'lefaat is a small group of pit houses

that the archaeologists believe were covered by tents or sod when they were used so long ago.

The early inhabitants had no pottery, but they had good flint tools, axes, and heavy stone mortars. Absence of sickles in the diggings indicates that they had not yet begun to cultivate grain. Although they made no pottery, there were fragmentary clay figures in the ruins.

M'lefaat is 25 miles east of Mosul in northeastern Iraq near the Iranian border.

The expedition has been in the field since early last fall and has covered 2,400 square miles, testing numerous cave and village sites.

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