METEOROLOGY

# Icing Less in Storm

**Heavy snow or rain presents less danger of ice forming on airplane wings than does air that is merely damp or drizzly.**

➤ ICE on the wings, that worst of fliers' nightmares, is less of a danger during a heavy rain or snow than when the air is merely damp and drizzly, but cold. This conclusion, running counter to widely accepted belief, is one of the results of a special study of icing conditions carried on by meteorologists of Harvard's Blue Hill Observatory, working at the special weather station on top of Mt. Washington, in New Hampshire, where some of the world's worst weather can be observed. Report on these studies was made by Dr. David L. Arenberg, before the meeting of the American Geophysical Union.

A mountaintop was chosen for this research, rather than an actual airplane, because a mountain "stays put" while an airplane cannot hover indefinitely in a patch of weather where icing is taking place—and would have cause to regret it if it could. Moreover, solider and more numerous instruments can be installed on the solidity of the mountaintop than can be imposed on the limited weight-carrying capacity of a plane.

Dr. Arenberg said, in part:

"Of the results that will be eventually applicable elsewhere, the most important is the intimate relation between precipitation and liquid water content or cloud density. Because both are produced in storm areas, it has been assumed heavy icing occurs with heavy precipitation. Actually, heavy snow or rain clears the air and lowers the icing chances.

"Another feature is that icing occurs at extremely low temperatures down to 40 degrees below zero Fahrenheit. The effect of temperature is mainly to lower the available liquid water but the probability of icing is not lessened. At high altitudes, as in a thunderstorm, icing may be exceptionally intense.

"As rain is thought to start in a cloud by the action of a few ice crystals among the supercooled water drops the origin of these ice crystals is being studied, samples of clouds are being micro-photographed and measured with equipment of Prof. H. G. Houghton of the Massachusetts Institute of Technology. Only rarely and at temperatures below zero degrees Fahrenheit are ice crystals found. Different types of air differ in this property of forming crystals.

"Other factors investigated at the Observatory are the variations in drop size, density of ice, amount deposited on various shaped objects, strength of ice, and light transmission in clouds."

*Science News Letter, May 1, 1943*

## Pressures Change With Spots

➤ AN APPARENT correlation between sunspot activity and pressure distributions in the earth's atmosphere was reported before the same meeting by I. I. Schell, also of the Blue Hill Observatory scientific staff.

Mr. Schell selected periods of maximum and minimum sunspot activity over a considerable period of years—periods of three months showing 80 or more spots, and other three-month stretches in which the sunspot numbers sank to five or less. He checked these against contemporary records of atmospheric pressures in high and low terrestrial latitudes.

In general, when there were many spots, pressures tended to be low nearer the equator and high in areas well to the north and south of it. Contrariwise, during periods of scanty sunspots, pressures near the equator went up and those in higher latitudes came down.

*Science News Letter, May 1, 1943*

NUTRITION

## Mead Johnson Award For Work On Biotin

➤ THE $1000 award given each year by Mead Johnson and Company for researches on the B complex vitamins goes this year to Prof. Vincent du Vigneaud and associates of Cornell University Medical School for their work on the structure of biotin, Dr. Arthur H. Smith, of Wayne University and secretary of the American Institute of Nutrition, announces.

The recipient of this award is chosen by a committee of judges of the American Institute of Nutrition, and the award ordinarily is announced at the Institute's annual meeting. The meeting was cancelled this year on account of the war.

Biotin is necessary for the growth of yeast and other microorganisms. It cures rats of the skin disease known as egg-white injury. It may play a role in cancer and is believed necessary to prevent a skin disease that develops in rats when given sulfa drugs. Its role in human nutrition is not yet definitely known, though many scientists are working on this problem.

The chemical structural formula of biotin was announced last year by Prof. du Vigneaud. If, as is usually the case, synthesis of the vitamin follows soon, scientists will have more ample supplies to work with than at present and new knowledge of the vitamin may be gained more rapidly.

*Science News Letter, May 1, 1943*

MEDICINE

## Low Fat Diet and Thyroid Cure Rare Type of Acne

➤ SUCCESS in treating a rare and severe type of acne, known to skin specialists as acne conglobata, is reported by Dr. Richard L. Sutton and Dr. Mark M. Marks, of Kansas City, Mo. (*Journal, American Medical Association,* April 24).

The patient had suffered for ten years with this severe skin trouble on the back of the neck, chest, buttocks, groins and forearms. While seldom completely incapacitated, he was continually in pain, had to wear wet dressings and had to have the sores opened and drained frequently. The wounds always healed slowly and generally opened again after apparently healing.

He finally came to the Kansas City doctors, who put him on a low-fat diet and gave him thyroid extract. Within seven weeks his wounds had all healed and he was completely well. He said that he "did not know it was possible to feel so good!"

The physicians reporting this case state that they expect other skin specialists to be skeptical of their claim to have cured acne conglobata in so short a time until they themselves have tried this method of treatment.

Dr. Sutton and Dr. Marks believe the same results can be obtained in every case if the treatment detailed in their report is followed. The basis for the ailment, they believe, is underactivity of the thyroid gland and a disturbance in the body's utilization of fats in the diet.

*Science News Letter, May 1, 1943*