METEOROLOGY

Stop Lightning Fires

Cloud seeding will be tried as method of halting forest fires in Southwest this summer. Known as Project Skyfire, the program is cooperative venture.

➤ STOPPING LIGHTNING-CAUSED fires in the great Southwest forests by cloud seeding will be tried this summer, the U. S. Department of Agriculture has announced.

Forest fires cost the United States about $70,000,000 each year, and more than 6,000 of them in the western states resulted from lightning.

The cooperative program of several Government and two private agencies to learn more about the "occurrence, behavior and control" of forest fires started by lightning will be made in the Coconino National Forest of northern Arizona, where lightning causes hundreds of fires annually.

The cloud seeding program is exploratory, Government experts stress. Its aim is to discover, from motion pictures and radar studies of cloud formation, if the cumulus clouds that are often the source of lightning can be dissipated by cloud seeding.

Mobile radar will be used to detect and analyze the lightning storms. Ground generators to throw silver iodide particles into likely clouds will be set up at one of the twin San Francisco peaks near Flagstaff. This is the first use of radar in forest fire control.

Lightning and cloud systems in the project area will be observed by motion pictures taken from fire towers, and the unseeded storms compared to those getting silver iodide crystals.

The experimental cloud seeding will be limited to cloud systems likely to be suitable for a comparison study.

Silver iodide particles are thought to act as nuclei around which ice crystals in clouds that can bring rain or snow form. It is hoped to learn whether seeding clouds with silver iodide will dissipate, increase or otherwise affect them.

Cooperating in the study are the President's Advisory Committee on Weather Control, the U. S. Weather Bureau, the National Park Service, the Intermountain and Rocky Mountain Forest and Range Experiment station, the Southwestern region of the Forest Service, the Munitalp Foundation of New York and Meteorological Research of Pasadena, Calif.

Dr. Vincent Schaefer, director of research for Munitalp Foundation, is technical leader of the program, named Project Skyfire. An earlier project of the same name was unsuccessful in attempts, started about three years ago, to "make rain" by cloud seeding in the mountains of Montana.

The twin San Francisco peaks in northern Arizona were chosen for the new study because they are relatively isolated. It is hoped analysis of results will be less complicated than when there are many mountains relatively close together, as there are in Montana.

Science News Letter, June 2, 1956

TECHNOLOGY

Non-Slip Bandage

➤ A STERILE COTTON GAUZE roller bandage that is self-fitting, self-tightening and non-slipping—it won't roll away if you drop it—is now available at drug stores.

Because it will stretch 40% and then return to its original shape without losing any of its elasticity, it is particularly useful for easy bandaging of knuckles and other joints. The bandage was first developed by Charles F. Goldthwait and James H. Kettering of the Southern Regional Research Laboratory, U. S. Department of Agriculture, New Orleans.

They developed a process for pre-shrinking cotton gauze. They saw the gauze fibers become kinky and stick to each other as layers of gauze came into contact.

They knew they had a wonderful new bandage, but they also knew that existing Government facilities could not be used to overcome the technical problems of mass-producing the gauze.

In 1952, Government officials approached Johnson & Johnson, surgical dressing manufacturers of New Brunswick, N. J., and asked, in effect, "Can you put this bandage into commercial production?" The firm's scientists accepted the challenge.

Their ingenuity produced a series of new machines that carried the raw cotton through several operations without stopping, culminating in the finished bandage. The chief technical problem was how to carry the wet gauze through the machines without stretching it, for stretching would cause the wet bandage to lose its elasticity. By floating the gauze through, this major hurdle was cleared.

It has taken much research to iron out all the production "bugs," but today gauze for 35,000 KLING Conform Bandages comes off the Johnson & Johnson production line several times daily.

Science News Letter, June 2, 1956

MEDICINE

Elastic Long Underwear For Low Blood Pressure

➤ A ZIPPERED, elastic version of the long underwear grandpa wore has been designed to help victims of a serious form of low blood pressure.

A patient with this disorder is all right while lying down, but faints from the sudden drop in blood pressure when he stands or even merely sits up. The condition, called orthostatic or postural hypotension, is the reverse of hypertension and results from inability of small arteries to constrict and keep enough pressure to force the blood back to the heart.

It may be associated with diabetes mellitus or follow a nerve-cutting operation done to relieve excessively high blood pressure. It may be completely disabling.

The tight-fitting elastic suit puts enough pressure over the lower half of the body to prevent the sudden drop in pressure when the patient sits or stands.

Development of the suit and good results with its use are reported by Drs. Herbert O. Sieker, John F. Burnum, John B. Hickam, and Kenneth E. Penrod of Duke University School of Medicine, Durham, N. C., in the *Journal of the American Medical Association* (May 12).

The suits in the study were designed and made by the David Clark Company, Inc., Worcester, Mass.

Science News Letter, June 2, 1956

BIOLOGY

Hormones Make Sheep Produce More Wool

➤ ASPIRIN-SIZE PILLS implanted under the skin of sheep have increased the animals' wool production by as much as 15% in experiments reported from Christchurch, New Zealand.

D. S. Hart, lecturer at Lincoln College, Canterbury, New Zealand, has stepped up wool growth on a limited number of sheep by administering hormones, derived from thyroid glands, that speed up metabolism.

Sheep at Lincoln College grew up to 15% more wool when given the hormone, l-thyroxine. Sheep in herds on the Canterbury Plains produced 13.5% more wool when given l-thyroxine.

Mr. Hart's research is based on experiments with the effect of light and dark periods on sheep. His results show that sheep produce more wool if given eight hours of light and 16 hours of darkness a day throughout the year. Mr. Hart interpreted this to mean that light and darkness could affect the glandular secretions of sheep.

Parallel experiments with light in the United States did not get these results. Scientists in this country say hormone experiments have not been carried out on enough sheep here to justify any final conclusions.

Science News Letter, June 2, 1956

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