

## PLANT PHYSIOLOGY

# Study Effects of Fallout

WHEN THE strontium-90 level in milk gives "cause for concern," farmers may have to restrict their dairy cows to an all-grass diet.

Studies of some 16 different grasses and legumes (clover, and bird's-foot trefoil), grown in soils with varying amounts of calcium and strontium indicate there are significant differences in strontium uptake.

Neither radioactive nor stable strontium was added to the soil "because the very small amounts of native strontium should give a better picture of the uptake of minute amounts of strontium by plants," two scientists report in *Nature* (May 23). They found that every legume took up more strontium than any grass—three to six times as much in many cases.

Among the legumes, Tallarook clover, or *Trifolium subterraneum*, took up the most strontium, while bird's-foot trefoil took up the least, Drs. P. B. Vose and H. V. Koontz say.

As long as the present level of atomic weapon testing is maintained, the scientists said, it is unlikely that dairy cows will have to be kept on a grass-only diet. However, "in the future it might prove desirable to take this measure to reduce the strontium-90 level in milk, particularly that consumed by children," they conclude.

Where there is high rainfall or other factors that may cause more than average radioactive-strontium content in milk, such special feeding may be necessary.

Grass would also be the preferred plant for reclaiming land heavily contaminated with strontium-90, the scientists point out.

Dr. Vose of the University College of

Wales, Aberystwyth, carried out the study at the University of California's department of agronomy in Davis with which Dr. Koontz is affiliated.

Dr. F. R. Fosberg, of the National Research Council's Pacific Vegetation Project, reports in the same *Nature* that a re-survey in 1956 of the plant life in the Marshall Islands indicate certain abnormal or pathological conditions. These, he says, increase from "islet to islet in the same order as the increase in fallout intensity."

Earlier surveys, in 1954 and 1955, of the effects of fallout from the 1954 Bikini hydrogen bomb had indicated no visible effects on plants.

Pointing to the fact that these latest observations are still of a preliminary and inconclusive nature, Dr. Fosberg says that symptoms ranged from dead plants to chlorosis (whitening of green parts), dead end twigs and "mistletoe-like abnormal growths." One islet was so altered, he says, that it was a gray color instead of green.

The extreme range of plant reactions to fallout suggest that a wide variety of plants be studied in any experiments investigating the effects of fallout, Dr. Fosberg suggests.

Science News Letter, June 6, 1959

## MEDICINE

## American Indians Have Low Cholesterol Level

AMERICAN INDIANS have lower serum cholesterol levels, the suspected culprit in hardening of the arteries and other heart diseases, than the general population.

In fact, the Navajo has both a low

cholesterol level and a low rate of heart disease. Other Indian tribes that were studied include the Crows, Sioux, Pueblo, Apache and Lac Courte Oreilles. These too have low cholesterol levels, but there is no information pertaining to these tribes' rates of heart disease in the *Public Health Reports* (May), issued by the U. S. Public Health Service.

Indian women had the lowest levels, while the levels of Indian men, although higher than the women, were lower than the levels of a sample group from the general United States population.

The cholesterol level of Indians, as in other low cholesterol level populations, does not continue to rise after the Indians reach the age of 39, Sidney Abraham of the heart disease control program of the PHS and Dr. David C. Miller of the Public Health Service Indian Hospital, Tuba City, Ariz., report in the journal.

A study of the Navajos revealed the fat intake of their diet did not differ greatly from the normal fat intake of the general population. Since this group of Indians has a low incidence of heart disease, researchers suspected there might be some hereditary factor that determines the development of heart disease.

The other tribes studied were grouped according to ancestry. Results indicate serum levels of cholesterol do not differ greatly between those who are part Indian and those who are full blooded, the investigating team says.

However, one group within the Navajo tribe exhibited a higher serum cholesterol level than the other groups, suggesting that some environmental factors govern the serum level.

Cholesterol is a fat-like deposit that accumulates and sometimes blocks the arteries. Whether or not a high level of cholesterol in the blood causes heart disease is a controversial subject among scientists.

Science News Letter, June 6, 1959

## ASTRONOMY

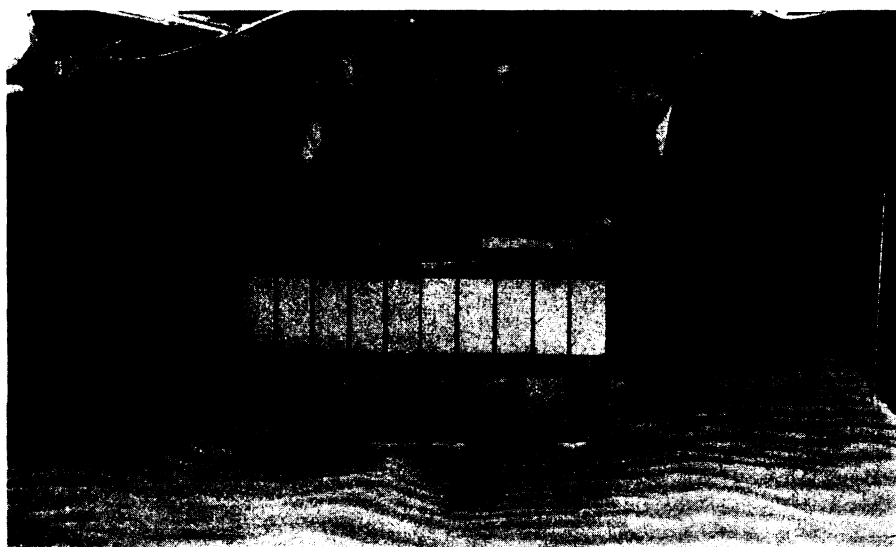
## 5,940 Sunspots Analyzed For 16-Year Period

THE 5,940 SUNSPOT groups seen by astronomers at Mt. Wilson Observatory in California from 1937 to 1953 have been analyzed and the statistics reported to the Smithsonian Institution Astrophysical Observatory.

The study covered frequency of spot groups occurring in the various magnetic classes, and the dependence of this frequency on the size and age of the spot groups. It also covered some aspects of the apparent differences in spot distribution between the east and west sides of the solar disc, and the distribution of 8,403 observed solar flares among spot groups of various magnetic classes, sizes and ages.

The analysis was made by Drs. Harold Glazer, now at the Raytheon Maynard Laboratories, Maynard, Mass., and Barbara Bell of Harvard College Observatory.

Science News Letter, June 6, 1959



**SNOWDRIFT**—A raging snowstorm, complete with drifts, was simulated inside the wind tunnel of New York University's Engineering Research Division. Shown, left to right, are Dr. R. W. Gerdel and Col. Walter H. Parsons Jr. of the U. S. Army Corps of Engineers' snow, ice and permafrost research establishment, and Prof. Gordon H. Strom of NYU. The model building in the foreground is built on pilings.