the nitrate base and allows the scratch marks to flow smooth. The process is carefully timed because too much time in the solution would cause an excess of film base to dissolve and make the negative thin.

The Signal Corps Laboratory under the direction of Lieut. Col. R. C. Barrett has designed and put into operation the machine which automatically times the process of running the film through the scratch removing bath and drying it afterwards. The machine can process about two to four feet per minute.

Science News Letter, December 5, 1942

ZOOLOGY

Red and Violet Snow Due To Minute Forms of Life

➤ FIELDS of red and purple snow in the Northland are due to microscopic plants. These single-celled algae, one of the most primitive groups of living things, were investigated by Erzsébet Kol, Hungarian woman scientist working under a Smithsonian fellowship.

Her report of the vivid "blooms" in Alaskan mountain ranges has just been published in Washington by the Smithsonian Institution.

In this forbidding arctic environment, she found nearly 50 examples of the tiny plants living in almost infinite numbers on perpetual ice and snow.

Collecting living specimens, Miss Kol headed for her laboratory high in the Swiss Alps where she planned to cultivate and study this strange form of life.

War has now severed communication with Miss Kol. Except for news of the loss of her living specimens, no word has been received on how the war has affected the project.

Her previous reports indicated that some of these algae are very fussy about their home surroundings. One wouldn't live on ice. Another wouldn't live on snow. And there are striking changes in algae types depending on whether surrounding mountain slopes are acid or alkaline in composition.

This is probably due to their reliance on air-borne particles of decomposing and shattered rock for food. Dust dissolves slowly in the moisture on snow or ice surfaces, providing the minerals essential for life.

The snow and ice plants perhaps serve as the chief food for some other form of life, it is believed, which in turn supports higher forms.

Science News Letter, December 5, 1942

AGRICULTURE

Healthy Army in 1962

Recruits twenty years from now will have sound teeth and solid bones if fields where their food is raised are properly fertilized now.

➤ RECRUITS for the Army of 1962 (if we need one then) will have sound teeth and solid bones if farmers and dairymen of 1942 put the right fertilizers on their fields and take proper care of the soil. The health and strength of the coming generation lies in today's fields and pastures, Prof. W. A. Albrecht of University of Missouri pointed out before the National Industrial Chemical Conference in Chicago.

Soils are the halfway stage between rock in the mountains and silt on the bottom of the sea; mankind seizes upon this geologically brief interlude in the endless cycle of erosion to extract a living from this mass of mineral particles plus humus added to it by other living things. If his use of the soil is wise, man can slow down the erosional cycle to his own advantage; if he abuses the soil it takes revenge by hastening the erosional process and leaves him hungry and faced with a stone-bare cupboard.

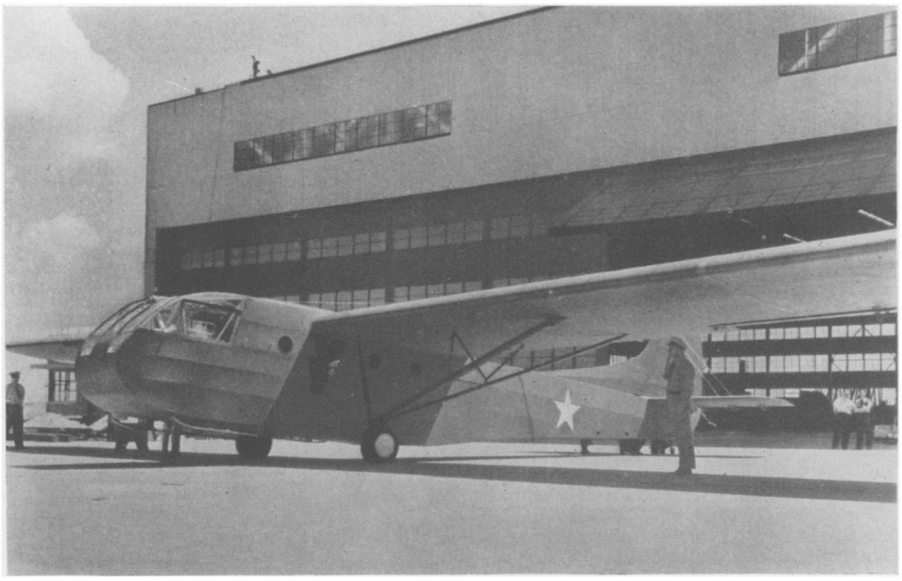
When soil "goes into a decline" it shows any number of warning symptoms before it is really ready to die. The speaker pointed out rising soil acidity, changes in the type of plants the soil will support, and various debilitating diseases in livestock pastured on the thinning range. A declining soil will not produce good crops of muscle- and bone-making plants; if an attempt is made to maintain total tonnage without regard to quality the new crops will have to consist more and more of "roughage" plants—bulky stuff with lots of woody tissue in it, but less and less of real food.

Prof. Albrecht suggested that one agricultural college's motto: "Our national wealth lies in the soil," might well be amended by the change of one letter: "Our national health lies in the soil."

Science News Letter, December 5, 1942

Many Factors Affect Plants

➤ MANY FACTORS influence plants in their use of elements taken from the soil to produce nutritional value, Dr. L. A. Maynard of the U. S. Department of Agriculture pointed out. With the



GLIDER—This little motor-less craft will carry fifteen soldiers. It is the CG-4A transport glider, designed by the Waco Aircraft Company, of Troy, Ohio, under the direction of the experimental department, U. S. Army Air Forces, Wright Field.