

The rapidity with which a field may be devoured is surprising. Professor Dean recalled a farmer who woke to find his six acre potato field of the night before a barren waste. There are many records of fields of wheat, corn, and alfalfa disappearing between sunrise and sunset.

The worms undergo metamorphosis in the ground or under such shelter as they can find. The moths then emerge and fly considerable distances, and by laying their eggs, prepare the way for another army worm outbreak. An army worm attack seems sudden because the extremely small young eat comparatively little and remain near the ground. With increasing size their appetite grows rapidly and their migratory search for food suddenly reveals their presence.

Over the fields occupied by army worms there may be a bee-like buzzing of flies and insects seeking to prey upon the worms. Flocks of blackbirds may appear, and the concerted attack of these and other natural enemies such as insects, toads, and mice, explain the practical elimination of the pest. The farmer can assist by watching for the first appearance of the worm and spraying the fields in which they appear, and scattering poisoned bait. He can protect himself from invasion by plowing a furrow and through this furrow dragging a log to crush the worms as they fall in, or burning with kerosene. An infested field should be plowed to destroy the young worms and pupae that may be wintering there.

The last attack preceding the current army worm attack in Illinois and Iowa occurred in each case ten years ago. The cold backward spring caused entomologists to expect the present attack.

The true army worm is distributed over practically the whole United States east of the Rocky Mountains. It does its chief damage in the grain and forage areas of the central Mississippi valley.

The Fall Army Worm of the south has similar habits, but is more local in its attacks. Still another species occurs in the western Mississippi River Valley.

READING REFERENCE - Caldwell, Otis W. and Slosson, Edwin E. Science Remaking the World. New York, Doubleday, Page and Company, 1923.

MAY CROSS COTTON PLANT WITH BIG HAWAIIAN TREE

Cultivated cotton may be crossed with a tree just rescued from complete extinction in Hawaii to make bigger cotton plants and take the kinks from the backs of cotton pickers. Such is the possibility foreseen as a result of the announcement of the success obtained at the Department of Agriculture's Plant Introduction Garden at Miami, Fla., in growing *Kokia Drynarioides* from seed. There is only one other tree of this species in existence and that is the one from which the seed were obtained. It is a close relative to the cotton plant, and it has been suggested may be of value for crossing with the cultivated cotton.

But this cotton cousin bears about the same relation to the cultivated varieties as the famous beans Jack bought do to the ordinary garden kind; for *Kokia drynarioides* reaches 15 to 25 feet in height with a trunk of six inches or more in thickness.

It will take a few years, however, to get specimens in cultivation. The experts now pin their hopes on getting more seed from the only parent tree at Kaulu-wai. Even if crossing does not succeed, the experts say, this cotton tree will prove an attractive ornamental plant as it has long-stemmed, heart-shaped leaves, and bright-red silky flowers.

HEATED NESTS WITH BATHS BUILT BY PARK BLUEBIRDS

Steam-heated nest with steam baths are being used by a pair of bluebirds in Yellowstone Park, according to reports from the National Park Service. The happy couple have, however, avoided expensive modern plumbing and steam fittings. They have simply taken over one of Nature's big steam plants by constructing their cozy home in the nearly extinct Excelsior geyser crater. Every morning they can be seen darting in and out of the steam.

Plants are also using the geyser as a natural greenhouse. Wild strawberries have been found growing not far from the crater two weeks ahead of their usual season.

SAND-PAPER LITHOGRAPHER INVENTED BY ARTIST

A new method of lithographing which will be of special interest to amateur artists and school children has been invented by Norman Jacobson, of Coketown, Wyoming, now studying art in Paris. In his method, sand-paper replaces the expensive stones hitherto necessary. Some brilliant effects can even be obtained by using as "printing-press" the family wash wringer.

The idea of sand-paper lithographs came accidentally when the young American etcher happened to run an ink-roller over a piece of sand-paper. He noticed that the sand-paper would not "take" ink. He found that if he draw a design on it with wax-crayons or a pointed piece of soap and then inked the sand-paper, the design was printed not unlike that from a regular lithographing stone. A group of American art students are now turning out work by the new method.

Mr. Jacobson says that the method will be of special value in schools as it opens up a new art which can be practiced without expensive equipment. The negatives need not necessarily be drawn. If letters or silhouette pictures are cut out of a newspaper or magazine and pasted on a sheet of sand-paper, then inked and run through an ordinary wringer with a sheet of blank paper, a copy of the design is printed on the paper. Many copies may be printed as the sand-paper negative does not easily wear out.

TALKING ACROSS ATLANTIC MAY BE MADE MUCH CHEAPER

Talking across the Atlantic by radio telephony has been accomplished fact for nearly ten years - possible, but altogether too expensive for the average American girl who might desire to while away a dull evening by a little flirtation with the Prince of Wales.

Just now it is still in the experimental stage, but there are hopes. Already