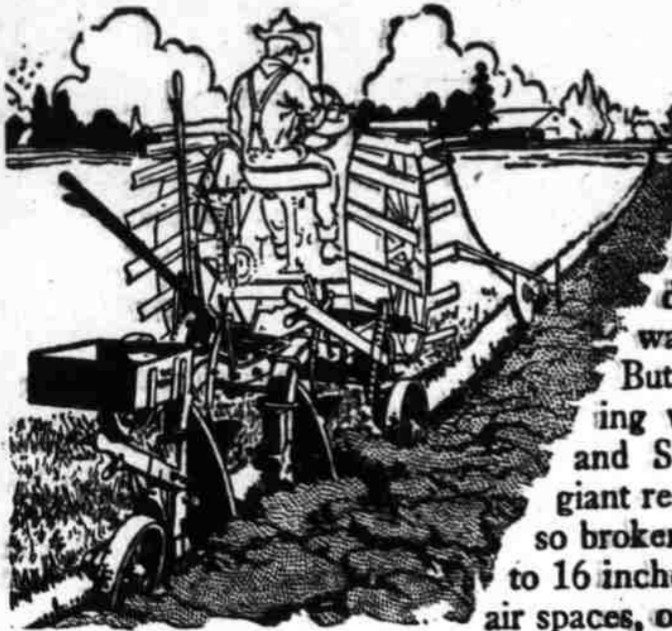


Disc Plowing and Subsoiling Makes the Soil Hold Moisture



THIS part of the country has ample rainfall—above an average of 40 inches a year; but this rain can do no good unless it is stored up. It may even do harm. The rains may wash away valuable soil food. But deep plowing and subsoiling with a McKay Disc Plow and Subsoiler makes the soil a giant reservoir. When the earth is so broken up to a depth of from 8 to 16 inches, it makes millions of little air spaces, or reservoirs, in which water can collect. Every shower soaks deep down into the bed prepared for it, taking with it Ammonia, Phosphoric Acid and Potash.

The McKay DISC Plow and Subsoiler PATENTED

When it becomes hot, the sun will draw the stored-up water thru the soil as tho it were "sucking up" from under the earth. Crop "spring" is prevented, and plant food, too, is added. For soil moisture coming up from the subsoil, brings with it the Phosphoric Acid and Potash that have been washed down.

Farmers who are now using the McKay recommend its use for deep plowing at any time of the year—Spring, Summer, Autumn or Winter—whenever the soil is dry enough.

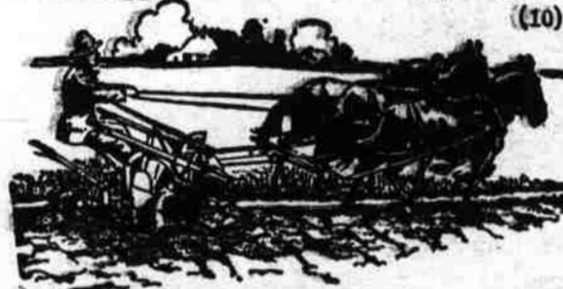
The McKay Disc Plow and Subsoiler plows the land and subsoils it at the same time. The plow runs in a straight line with the direction of the horses or tractor pulling. This makes it pull at least 10% to 20% easier than the ordinary disc plow handling the same amount of

soil. The subsoil feet can be removed, leaving a perfect disc plow of economical draft.

The McKay goes from 8 to 16 inches into the soil. It gives roots a chance to go out in all directions, and get plant food.

An automatic hitch releases the plow from tractor when a stump or rock is hit. Write today for catalog. Please state whether you are interested in an engine plow or mule plow.

TOWERS & SULLIVAN MFG. CO.
Box 57 A ROME, GA. (10)



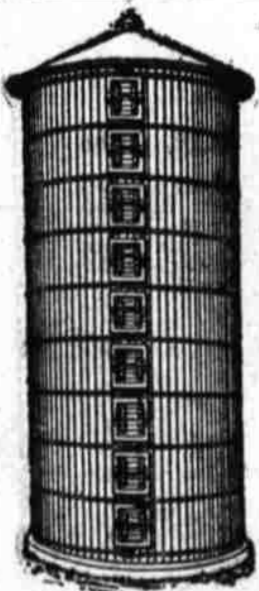
Use Express Service

With SOUTHERN EXPRESS service the markets of the city are at your door. A night's trip puts country produce in city pantry. Grow plenty of fruits and vegetables, raise lots of poultry, gather up the eggs, pack them securely, and fill promptly the orders you will get if you list your name in our Market Bulletin. Shippers and producers meet dealers and consumers through this medium.

Low Rates on Food Products

THE SOUTHERN EXPRESS COMPANY

"Serve the Public" (2)



TENNESSEE STAVE SILO

This silo comes to you at a big saving. Being South, we save freight on lumber shipped to our plant; also save freight on the silo shipped to you. This saving we pass on to you.

Tennessee Stave Silo keeps silage perfectly; doors are built air-tight like refrigerator doors; on hinges and always in place. Steel fasteners form big easy-climbing ladder. Silos built of long-leaf yellow pine in two grades—either select silo stock or guaranteed 95 per cent. heart. Easy terms. Remember our location means a saving to you. Write today.

KNOXVILLE LUMBER & MFG. CO.

206 Randolph St.,

Knoxville, Tenn.

The best way to get every farmer in your neighborhood working together along all progressive lines is to get every one of them reading the liveliest and most progressive farm paper you know. We don't say The Progressive Farmer. If you know a better one use it. But please help the best one you know.

NOW
You Can Make
Money Fast

Get the Admiral Horse Power. A hustling money-maker. Big capacity at lowest cost. No foot feeding. \$160. Write today. Admiral Hay Press Co. Box 46 Kansas City, Mo.

THE BOLL WEEVIL PROBLEM

III.—Description and Life History of the Weevil

By B. L. MOSS

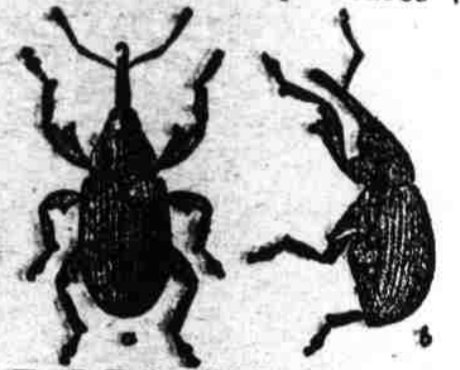
[This is the third of a series of articles on the Boll Weevil Problem. The fourth, "Natural Factors Affecting the Degree of Weevil Damage," will appear next week.]

IT IS well that even the layman, so to speak, should have an accurate knowledge of the habits and characteristics of the boll weevil, since such a knowledge is essential in order thoroughly to understand the lines of resistance to the weevil's ravages and their methods of application.

General Appearance.—In the illustration below are presented several



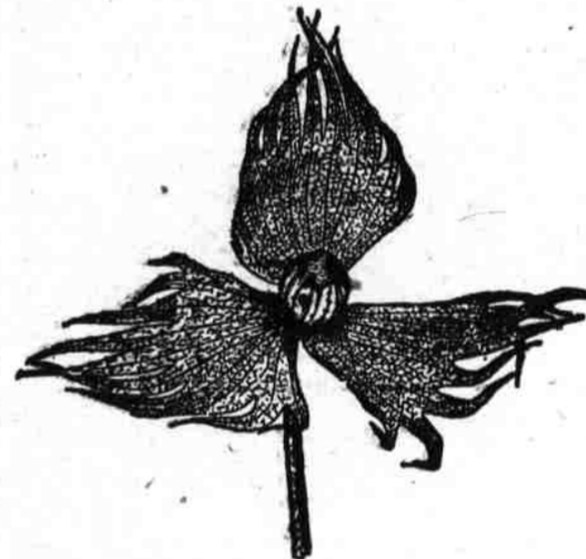
Showing Weevil, Natural Size



Weevil, Back and Side View. About Five Times Natural Size

views, natural size, of the boll weevil. From these it will be seen that the insect is about one-fourth inch in length and perhaps one-eighth of an inch in width. The general shape is somewhat elephant-like, with a long, curved snout or proboscis, at the end of which are found the feeding or mouth-parts of the weevil. The color varies considerably, depending upon the age of the weevil and length of time of exposure to the air. Immediately after emerging from a square or boll, the color is light brown. Upon exposure to light and atmospheric conditions the color changes in a few days to a blackish gray—something of a pepper-and-salt appearance.

Males and Females.—To the eye

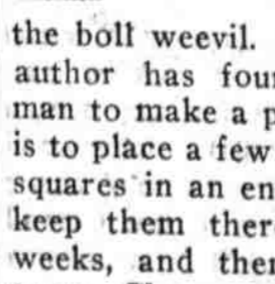


Showing Egg Puncture of Boll Weevil and Flaring of a Square

there is no perceptible difference between males and females, their size and general external appearance being quite similar. Some have inferred that the larger weevils were males and the smaller females, or vice versa, but these assumptions are incorrect, since size is dependent upon the size of the square or boll in which the egg is laid and thus upon the food supply of the young, rather than upon sex.

Identifying the Weevil.—Entomologists have found it practically impossible to describe the boll weevil so that the average cotton grower, unaided by a glass, can identify it with any degree of certainty. It is one of about 200 different species of weevils, many of them closely resembling the boll weevil. The surest way the author has found for the average man to make a positive identification is to place a few fallen and suspected squares in an envelope, jar or bottle, keep them there for two or three weeks, and then examine the contents. If a weevil of any kind is developed it is certain to be the boll weevil, since, so far as is known, no other species of weevil reproduces in cotton squares or bolls.

Cotton Square Showing Larva of Boll Weevil in Position



life history of the boll weevil it is appropriate that we give some attention to its hibernation, or manner of passing through the cold winter months. It will be remembered that the insect is of tropical origin and in its native habitat was accustomed to mild and equable temperatures the

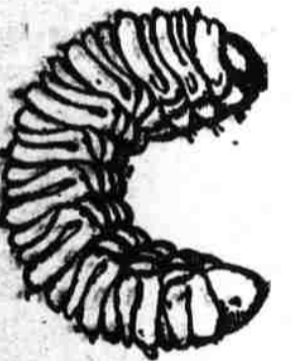
year round. In the lowlands of Mexico and Central America, where we are led by inferences to believe the weevil originated and acquired the habit of subsisting on cotton alone, cotton is a perennial plant and the weevil, throughout the entire year, is busily engaged in feeding and reproduction. As the higher latitudes and altitudes were reached in the migratory movement of the pest, it is obvious that quite dissimilar climatic conditions were encountered and that radical changes in the habits of the weevil were necessary to its existence.

Coming from a warm to a comparatively cold climate, the weevil has exhibited a remarkable adaptability to a changed and hostile environment. It has survived zero temperatures and has frequently lived for eight months or more without food, and it seems probable that it will be able to habituate itself to practically all climatic conditions existing in the cotton-growing states.

In the fall, as soon as the first frost kills the green squares and bolls, the adult weevils begin immediately to seek winter quarters. These may be found within or beyond the limits of the cotton field, since the weevil is seeking the best shelter and protection against the winter cold. Stored cotton seed, barns, hay stacks, hedges and fence rows, thickets, sapwood on dead stumps,—all these afford protection against freezing temperatures, and it is in such situations that the adult weevils pass the winter. The length of the hibernation period is determined by the time lapsing from the first killing frost in autumn until the young cotton begins to show above ground in the spring. This period varies in different seasons, depending upon the earliness or lateness of the first killing frost in autumn; and in different latitudes, since the winters lengthen perceptibly as we move northward in the Cotton Belt.

It must not be assumed that all weevils going into hibernation in autumn emerge to attack the young cotton the following spring. Many factors affect the percentage surviving, and the presence or absence of these factors may cause a total survival ranging from a fraction of one per cent to possibly as high as 40 per cent of all weevils entering hibernation.

The winter survival of the weevil is intimately connected with the problem of weevil control, and this sub-



Larva of Weevil. About Five Times Natural Size



Pupa of Boll Weevil. About Four Times Natural Size