

Combatting Corn Pests

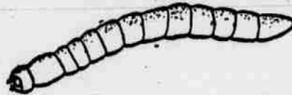
Descriptions and Methods of Destroying the Enemies of this Very Important Farm Product

By C. E. Brashear, Student in the College of Agriculture, University of Missouri

The greatest amount of injury to corn from insects occurs after plowing up grass land of long standing, or results from the continuous culture of corn upon the same land several years in succession. Some of these insects are able to live on weedy plants. Generally, therefore, the most effective remedies against insect attacks are short and systematic rotations, accompanied by clean culture of the field and surrounding fields. Where the land is neither in grass nor corn for more than two years in succession the attacks of insects are comparatively limited. The insects of most economical importance to the corn growers are:

- (1) Wireworms.
- (2) Cutworms.
- (3) White grubs.
- (4) Corn root worms.
- (5) Corn root louse.

WIREWORMS are the larvae of the large family of click beetles, or "snap bugs." The worms vary in length from one-half to one and one-quarter inches, have a hard, smooth, shining surface, varying in color from yellowish to reddish brown. The beetles re-



Wireworm

main in the soil over winter and emerge in the spring. Eggs are then laid in the soil in the grass land, where they soon hatch, the larvae requiring at least two years to fully mature. The worms are very destructive by attacking the seed in the ground before it is sprouted, and by also eating and boring into the roots and stems of the young growing plants. The injury is likely to be greater the second year after sod is broken up. All cereal crops may be attacked. No successful remedy has yet been proposed, although fall plowing is helpful. When replanting injured corn it is well to put the new seed between the attacked rows, which are left to act as a food supply until cultivation becomes necessary.

CUTWORMS.—There are different species of cutworms, but their injury and treatment are substantially the same. The moths, of which the cutworms are the larvae, lay their eggs upon the leaves of grasses in the meadows and pastures and the larvae



Cutworm

worms feed upon the growing vegetation. The fully grown cutworm is one and a quarter to two inches long and varies in color with the species from dull brown to gray or green, and is variously marked with longitudinal or oblique stripes and dashes and dots. When grass lands, especially of long standing, are plowed up and planted to corn, the cutworms, being deprived of other vegetation, attack the young corn plants when only a few inches high, cutting them off just above the ground. The larvae pupate during late spring and summer, thus permitting late-planted corn to escape their attacks in some cases. Late fall plowing is quite effective by disturbing and exposing the worms and by destroying the food on which they would feed during spring. They may also be poisoned by the following mixture:

Wheat bran 40 pounds
Molasses 2 quarts
Paris green 1 pound

This is mixed with enough water to moisten. A tablespoon of this mixture placed near each hill will attract the cutworms and prove fatal.

WHITE GRUBS are the larvae of May beetles or June bugs. The beetles lay their eggs mostly during June, in the soil, commonly in grass lands, but not infrequently in corn land also. The

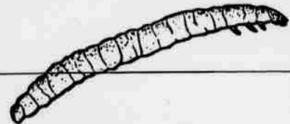
eggs hatch in 10 to 18 days and the grubs are supposed to live for two full years. White grubs do their injury



White Grub

by feeding upon the grain and upon the roots of the young corn plant, sometimes causing immediate destruction, in other cases causing only minor injury. The grubs are also quite destructive to grass lands, in some cases causing complete destruction of the sod. Fall plowing and rotation are helpful in ridding a field of grubs. Hogs without rings, turned into an infested field, feed upon them, and in some cases entirely free the field of them.

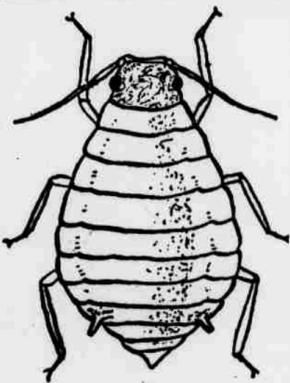
CORN ROOT WORM.—The larvae of the corn root worm is two-fifths of an inch long, about as large as a pin; body somewhat cylindrical, colorless, except the head, top of the first segment and a little patch on the last segment of the body, which are yellowish brown. The injury is done by



Corn Root Worm

the worm largely during July and August, by beginning in the tip of the corn root and working toward the plant, devouring the inner portion of the root as it goes. Since the worms have no other plants on which they feed, and since the eggs are usually laid about the hills of corn, a rotation furnishes a simple and effective remedy for these insects. It is destructive only when corn is cultivated on the same land several years in succession.

CORN ROOT LOUSE.—Ants protect and care for the plant lice in return for their secretions, which the ants consume. They are sometimes called the "cattle" of the ants. The corn root louse does its greatest in-



Corn Root Louse

jury to the young plant during May and June, causing the plant to wither and die by sucking its juices through the roots. Usually these attacks are in spots throughout the field, and are likely to be most injurious during unfavorable weather conditions. Rotation, thorough cultivation and fall plowing will help to control this pest.

earlier. Sweet corn is good feed, but does not yield heavily. Second-growth clover, millet or alfalfa can be used if available. After August 1 in the corn belt corn and sorghum are the best crops for supplementing pastures.

Sorghum yields immense crops, and if a surplus is on hand it may be made into hay profitably. A yield of from 15 to 25 tons of green sorghum per acre is not unusual on good land.

Green crops fed as a supplement to pasture may be fed in the pasture or in the barn lot, but as a rule are fed most economically in the barn. The cows remain inside long enough at milking time to eat their portions.

As a rule the most economical method of supplying feed to help out the short pastures of midsummer and fall is to feed corn silage. Silage will keep in good condition for summer feeding with no loss except on the surface. If it is not needed during the summer, it may be covered with the new silage and kept until wanted. Corn furnishes a larger amount of dry matter per acre than any crop that can ordinarily be grown for summer feeding, and has the further advantage of being on hand as early as wanted when in the form of silage.

Missouri County Fairs

Growth in Popularity Due to the More Systematic Management—Objects, Education and Amusement

By E. A. Trowbridge, Sec'y of the Missouri Am'n of County and District Fair Managers

County fairs have enjoyed great prosperity during the past few years in Missouri. They have, to a remarkable degree, aroused an enthusiasm and interest in breeding profitable types of animals. The educational value of these county exhibitions has contributed largely to the reputation enjoyed by Missouri live stock. They have contributed to the development and improvement of all kinds of live stock. No other single agency exerts such a marked influence in fixing definite standards for the best types of the domestic animals. Experience long since demonstrated that improvement in breeding domestic animals is impossible unless breeders have a definite, fixed type in mind. The live stock shows have done much toward fixing in the minds of exhibitors the best type of animals.

These fairs exist for the betterment of their respective communities. While they have been called agricultural fairs, and have in truth been agricultural fairs in the majority of cases, yet they have given inspiration and enthusiasm to not only those of agricultural pursuits, but to those living in towns and cities as well.

There must be two primary objects of every county fair: First, education; second, amusement. To secure the proper balance between these two objects without the smothering of one and the excess of the other has been the difficult problem. Fairs which have been out of balance in either direction have failed to accomplish the best results or failed to interest the people. The fairs of Missouri, themselves, stand today as convincing proof of the good which they have accomplished.

The success of any fair depends in large measure upon the stockholders. As a general proposition we believe it advisable to limit the number of shares that it is possible for any one stockholder to own. Also, to make the value of each share not less than \$5 nor more than \$50. The more good men whose interests can be enlisted in the enterprise, the more strength will come to it. One Missouri county fair has 500 stockholders. This means that there are about 500 families with a personal and pecuniary interest in the success of the affairs of the association. A "one-man" fair, or a fair run by just a few individuals, usually finds it harder to secure the active co-operation of the community such as comes to a fair "OF, BY AND FOR THE PEOPLE."

ALFALFA RESISTS DROUGHT

FIELD IN CENTRAL MISSOURI ATTRACTS WIDESPREAD ATTENTION.

By C. E. Brashear of the College of Agriculture, University of Missouri.

On one farm in central Missouri there is a field of alfalfa that catches the eye of everybody who passes by. It is striking because it is the only field that has a good green color in that locality. The man who owns the field has been growing alfalfa for sev-

eral years. This particular field has been seeded to the crop for five years. It is notable that a year which has cut short most of our forage crops has been particularly favorable for alfalfa. The field was not cultivated this year and is yet practically free of weeds. The drought has kept the weeds down.

The reason that alfalfa is growing while other plants are withering is that it has unusually deep roots. The roots continue to grow year after year, so that an old stand fares better than a new one in a dry season. It is not uncommon for alfalfa roots to go five and six feet deep, and they have been found 30 feet deep. The soil that our common plants feed in may be quite dry without affecting alfalfa.

The field referred to will yield three or more crops of hay, which will sell readily or may be fed on the farm. The owner of the farm believes that alfalfa can be grown on most Missouri farms. Conditions must be right, and even then it may take several years to get it established. But when it does grow right he believes that it is one of the most profitable crops we have.

It does not do so well in a wet season. Last year was not a good alfalfa year. The weeds grew in the field and damaged the crop and the weather was too wet to cure good hay. Inoculation is a factor that should not be overlooked when a field is seeded to alfalfa for the first time. No surer method of inoculation is known than the use of soil from an old alfalfa field. In fact, this method



A Profitable Alfalfa Field

has given better results than any other. The soil from an old alfalfa field contains the bacteria that grow upon the roots of the alfalfa plant. If a small amount of this soil is sown over the field to be seeded and harrowed in immediately, there is every reason to believe that the bacteria will do their work.

When an old alfalfa field is not at hand a culture of the bacteria may be obtained by writing to the United States Department of Agriculture, Washington, D. C. The cultures are accompanied by directions for using.

Other conditions that are necessary for success with alfalfa are a well-drained, rich soil and a soil that is not sour. Before the land is seeded it should be freed of weeds as much as possible. A thoroughly prepared seed-bed and fall seeding are usually essential.

The field referred to will yield three or more crops of hay, which will sell

To the Patrons of the Butler Water Company

Owing to the continued drought, we are compelled to ask our patrons to discontinue sprinkling, do not use the hose for any purpose whatever and beg that you use only the neces-

sary amount of water to supply the absolute needs of the household and stock. Unless it rains soon, the situation will be alarming—and the entire city will suffer. A united effort will save thousands of gallons for emergency. Lillius Emerson, Supt.

DRY WEATHER? S-W.P.

Mr. Farmer. How many of you have had your wagon wheels set during the dry weather?

Do you know that if you will give them a coat of good Wagon Paint after they are set it will not be necessary to have them worked on for several years.

Why not spend a few cents on paint and save dollars in repairs?

Go out and look how the wood in your house is cracked open and think what the winter rains will do to it.

Then remember S-W. P. and see us at once Paint while it will do the most good.

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Take out one, or a dozen. Try them for thirty days. If they aren't what we claim, or better still, exactly to your liking, bring them back and your money is refunded. Fair proposition, isn't it?

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and rot the boards, because they are so tightly bolted that there is not a crevice for water to collect in. This means no water soaked and heavy gate that pulls off the hinges, but does give you more strength and longer life for the gate. Call and see our gates.

Logan-Moore Lumber Co

BUTLER, MISSOURI

SUMMER FEED FOR COWS

SUPPLEMENTS TO BLUEGRASS NEEDED DURING DRY SEASON.

By C. H. Eckles, Professor of Dairy Husbandry, University of Missouri.

During the dry part of the summer it is usually possible to hold the milk flow by heavy grain feeding, but this is unnecessarily expensive. Provision should always be made to have green crops on hand that may be cut and fed when needed, or to have silage available. It is the nature of bluegrass to grow freely in early summer, then to rest until fall. This leaves a period in the summer, from about the middle of July to the middle of September, when the pasture is liable to be short.

Corn is in many ways the best crop for summer feeding. The main difficulty is it does not come on early enough. Even the early varieties are usually mature enough to feed before August 1. Something is often needed