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EC1518 Revised 1946 Construction and Use of Chinch Bug Barrier

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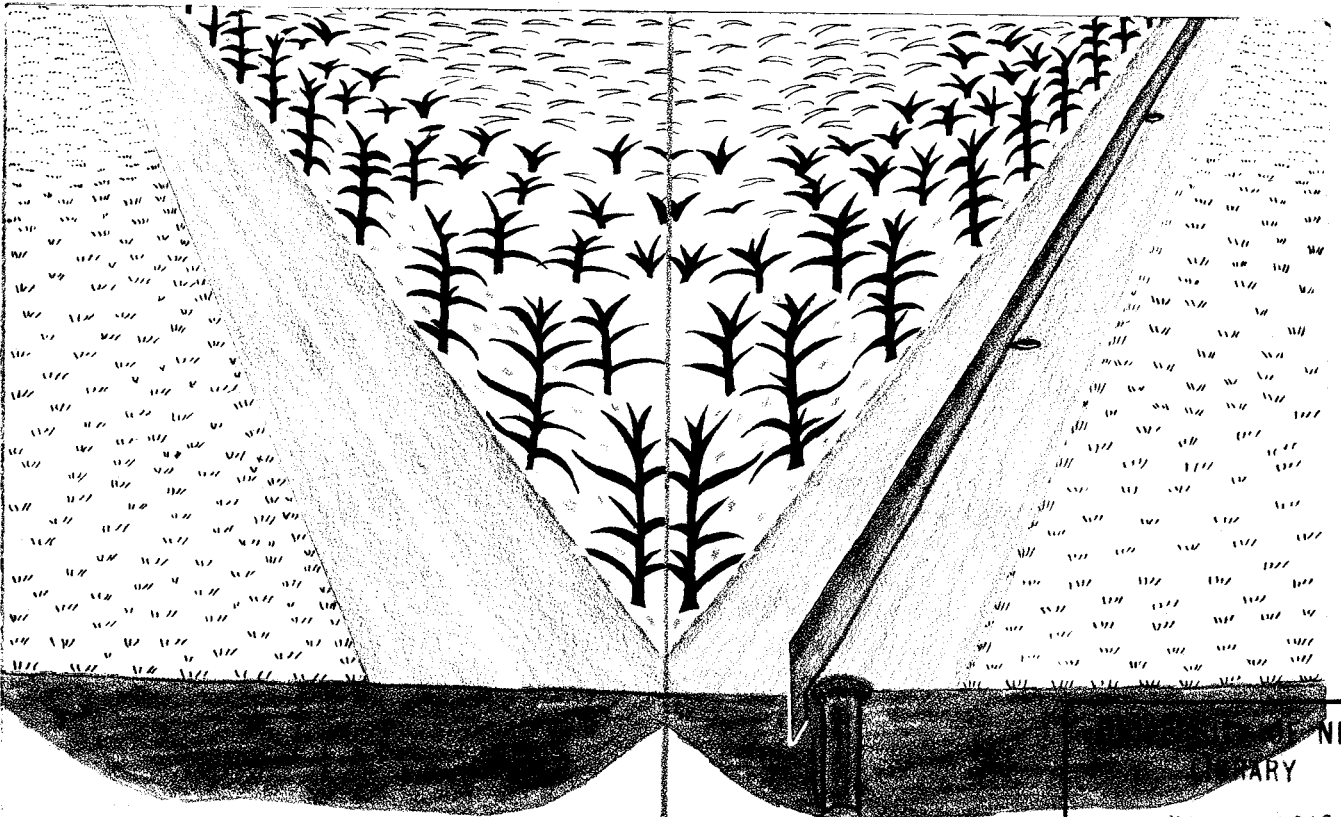
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CONSTRUCTION AND USE OF CHINCH BUG BARRIER

O. S. Bare and Martin H. Muma, Extension Entomologists

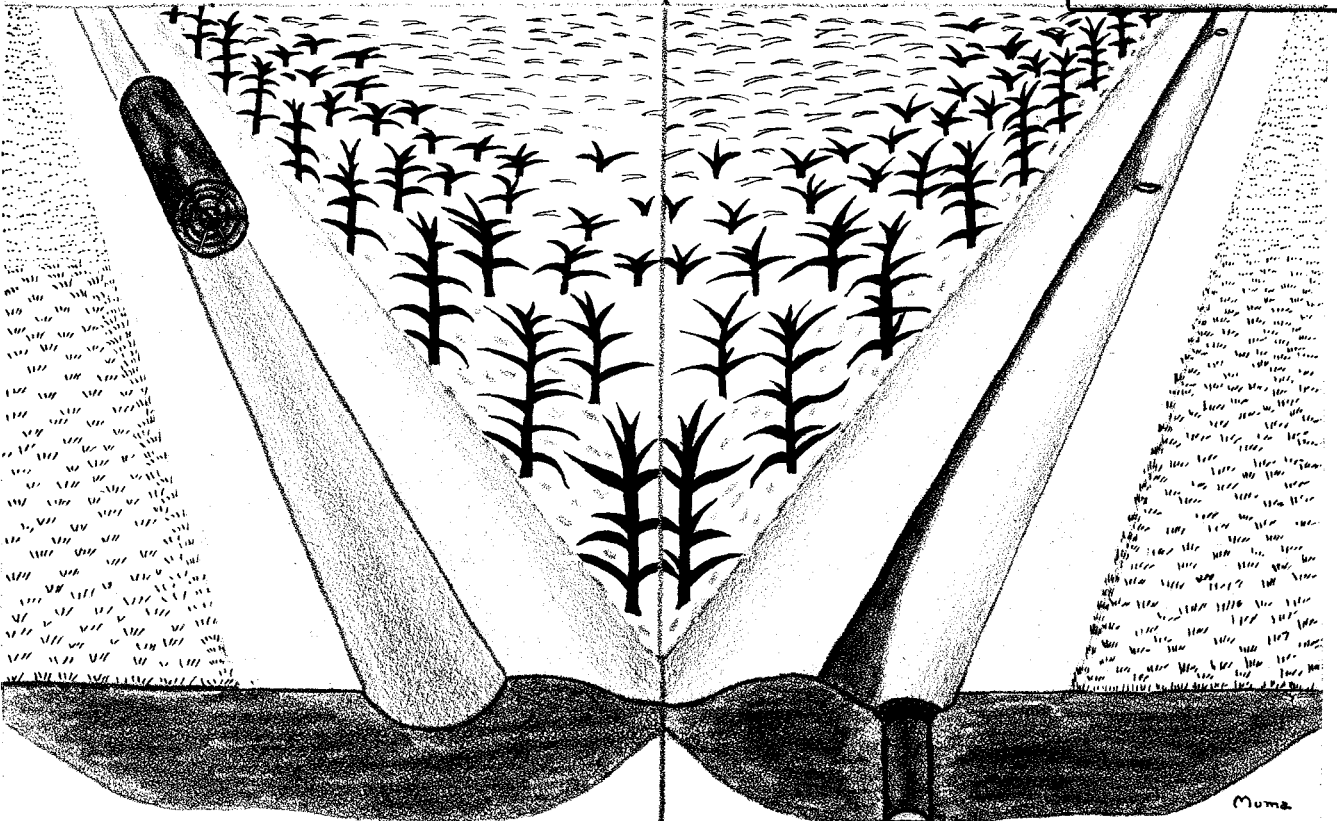


CHEMICAL DUST LINE BARRIER

PAPER CREOSOTE BARRIER

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DUSTY FURROW BARRIER

FURROW CREOSOTE LINE BARRIER

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Barriers must be constructed between the small grain from which the bugs are coming and the corn or sorghum field which they are entering. If the bugs have entered the corn or sorghum field the barrier should be made just ahead of the advancing bugs.

Paper-Creosote Barrier. This barrier is made by standing a strip of heavy paper about four inches wide in a shallow furrow about two inches deep and packing the soil evenly and firmly at the same level on both sides. It should be made on clean level ground. After a smooth path has been prepared, a wheel hoe or garden or corn cultivator may be used to open the small furrow. Tarred felt (common tar paper) of the 14 or 15 lb. grade is the most satisfactory. A 36-inch roll of it can be cut into nine four-inch strips with a sharp hand saw. If tarred felt is used, creosote need not be applied until the barrier is completed. It may then be applied by means of a tin or galvanized pail, having a six-penny nail hole punched in one side, near the bottom, and directly under the point where the bail is attached. The application should be repeated every two or three days, depending on weather. Red rosin building paper has been used successfully, but it must be soaked in creosote for 12 hours and drained for an hour before the barrier is built. From 25 to 35 gallons of creosote are required to build and maintain 1/4 mile of this barrier.

Post holes for trapping the bugs should be dug from one to four rods apart, depending on the size of the migration, and 18 or 20 inches deep. They should be dug on the side of the paper toward the small grain, and from four to six inches away from it. Edges should be sloped out almost to the paper and kept well dusted to prevent trapped bugs from crawling out.

While the initial cost of this barrier is higher, and the labor of installing it is greater than for other types of creosote barriers, the reduced labor and cost of upkeep make it cheaper in the long run. It acts both as a chemical and a physical barrier and is more effective than the other types.

Furrow-Creosote Line Barrier. To make this barrier a furrow is plowed, throwing the furrow slice away from the bugs and toward the crop to which they are migrating. This side of the furrow is then made firm and smooth with a spade or shovel, and a line of creosote about two inches wide is laid in a groove made with a hoe on that side and about three-fourths of the distance up from the bottom of the furrow. Post holes must also be used with this barrier. The creosote line must be renewed at intervals of one or two days, depending on weather. The best time to renew it is about the middle of the day. From 50 to 60 gallons of creosote are required to build and maintain 1/4 mile of this barrier.

Dusty Furrow Barrier. This is an emergency barrier and not generally recommended. It is effective only when the soil is dry and can be kept finely pulverized. To make it, plow or disk deeply and harrow a narrow strip. Then with a plow or lister throw out a deep furrow on the side of the strip nearest the field to be protected. A log or barrel is then dragged back and forth in the furrow until the soil is reduced to a fine dust. No post holes are used, and the bugs that become trapped in the furrow are killed by repeated draggings.

Chemical Dust-line Barrier. This barrier is constructed by laying a two-inch strip of DN dust (4% 3,5 dinitro-o-cresol) on a smooth packed surface. Bugs crossing the line are killed. Rain may pack or wash away the line making it necessary to renew it. DN dust, although not available for the 1946 season, makes an easily constructed and maintained barrier. Around 100 pounds of dust are required to build and maintain 1/4 mile of barrier.

General Information. The main migration of bugs usually begins about 2:30 p.m. and is over between 6:30 and 7:00 p.m. There may be a light migration in the morning between 7:00 and 11:00. Bugs trapped in the post holes should be killed by throwing two or three tablespoons of kerosene or creosote into each hole once a day.