

## CO-OPERATION NEEDED.

## Farmers Should Organize to Build Cotton Oil Mills and Guano Factories.

Editors Progressive Farmer:

This is an appeal to the farmers of North Carolina to get together, by all means, for the protection of each other, and build guano factories and oil mills, stop some of the leaks in the farmer's bushel. The farmers of North Carolina lose, each year, a million dollars that might be saved to the farmer's pocket. In the guano leak alone it is enormous. Think how the farmers lost in the year 1903 in one of the commodities (cotton seed). That should never be allowed to go out of the hands of the farmers. After it is sold to the oil mill it goes through the hands of the oil mill man at a big profit and then into the hands of the guano men at an enormous profit, and then back to the farmer in the shape of meal guano at a profit of from \$4 to \$6 per ton, and a good percent of the meal goes into the hands of stock men in the West and Europe, and that is a drain on our soil and causes our soil to grow poor. Thus poor soil makes poor farms, and poor farms make poor farmers, poor farmers make poor merchants, poor merchants make poor people, poor people raise hungry children, and hungry children make roguish men—and right on down the line to the penitentiary and worse.

So, all good men, stop and think—the merchant as well as the farmer. The merchant and the farmer must pull together in order to succeed and make things work well. The merchants are all organized for a good purpose, and now, if the farmers will all organize together and lay down, what I call negro prejudice against the merchants and selfish motives, and all pull together, we can move trust or another combine that legislation cannot reach and conscience is not known. So, I make an appeal to everybody to put the shoulder to the wheel and stop the leakage of the farmer's bushel, that it may be the means of filling many other bushels and bringing prosperity to our country and give life to all business.

Take our own county of Robeson. Nature has blessed us far above some other counties, this being one of the very best farming counties in the State by nature, and fast becoming so by practice. We can raise more different commodities than almost any other county, and it contains more fertile land, and some of as fine talent as the world affords, and, no doubt but that the Lord will require a great deal of us in return. So "get together and help paddle our old boat to the landing of prosperity." First, learn our own duty, and then do it and make others do likewise. Make our homes attractive, that we may retain on the farm that talent which we have been losing and that has been going to other channels, for the best of talent has been reared on the farm, and if that talent had been retained on the farm, great things would have been the result. So make your first duty to your Lord; second, to your family; third to your farm, and fourth to the Alliance, and organize and not be ignored any more by the oil mill trust as you were this year. There are some facts that I want to call every farmer's attention to in the county. Did you know we made over 30,000 bales of cotton in 1903, two-thirds of which amount goes into the hands of the oil mills—making 500,000 bushels of seed, making 7,500 tons of meal, making 120,000 pounds of ammonia, sufficient to make 24,000 tons of meal guano that cost the farmers five dollars more per ton than it would have cost them if they could have bought the meal, acid and kainit and have done their own mixing? A mixture of six hundred and fifty pounds of meal, one-half ton of 16 per cent acid, three hundred and fifty pounds of kainit, well mixed, will make a guano that will analyze  $2\frac{1}{2}$ —8—2, just what a great deal of the meal goods did that have been on the market this year. You see from this calculation what the one deal on our own com-

modity cost the farmers of Robeson County—\$120,000—sufficient money to build an oil mill and guano factory sufficient to manufacture all the seed made in the county and all the guano used among the farmers of this county, with a saving to the farmers of Robeson County of at least a half million dollars per year, and with that amount of money left in the county for five years we would certainly have prosperity among the people. Just think of that amount of money among the farmers of our county. Why, it would almost make an agricultural paradise for our people, and our young men would be contented on the farm and there would be no seeking other channels of trade.

So, let every farmer go to thinking and watching and to organizing the Alliance. Build your mills and turn the boycott of 1904 to one of the greatest blessings that our farmers ever experienced, and cause us to use the talent that God gave us through nature. Remember that God will help those who help themselves.

Yours,  
Robeson Co., N. C. FARMER.

## TALKS ON INSECT PESTS.

## X.—Cut-worms.

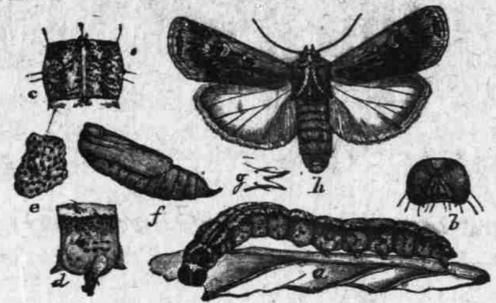
Editors Progressive Farmer:

Cut-worms seem to have been unusually destructive this spring and this increased activity is no doubt due to a considerable extent to the cool weather. Experienced gardeners tell me that they are usually worse in such seasons. In my own garden, which is very small, they have cut off a number of tomatoes, onions, pears, and cabbage, the latter especially. They have also been reported to me by correspondents as destroying tobacco, and one grower says that his Irish potatoes are being quite seriously injured. This was news to me, as I had never known potatoes to be bothered by cut-worms; but as they seem to have been quite abundant everywhere, and as my correspondent seems to be quite accurate, I have not the least doubt that his report is correct.

Now there are very many different species of cut-worms, all hatching from the eggs of moths. Many of the cut-worms (which are the larvae of the moths) are so much alike that they can scarcely be distinguished, while the adult moths may be easily separated into different species. While it is true that there are very many species, still there are certain species which are usually more abundant and destructive than others, and some of these have been given common names as: "The glassy cut-worm," "the dark-sided cut-worm," "the greasy cut-worm," etc., according to their appearance. In our garden there seemed to be but one species, and we have not yet had it identified.

The adult moths are on the wing most abundantly in early summer, during June and early July, and are frequently to be seen flying about lights. As already stated, there are many species, but as a rule, the front wings are gray or brown while the hind wings are almost transparent, white or with a pinkish tinge. The moths lay their eggs on growing vegetation, mostly in grass lands. The larvae, hatching from these eggs, go beneath the surface, resting during the day and crawling from plant to plant and feeding at night. By winter they are only partly grown and become dormant until spring when they become active again. Now you can easily see that if you break up sod land in the spring and plant it in garden crops, you have, already on hand, a hungry horde of these cut-worms waiting for your vegetables to come up when they will be immediately attacked. My garden was not cultivated last year (I was not in this house then), so that it offered a good place for the moths to lay eggs. After feeding for a few weeks in the spring, the larvae become full-grown, descend deeper into the ground and change to the pupa

or chrysalis state, from which they emerge as moths again after two, three or four weeks. Then the moth lays eggs again, and the story is repeated.



A CUT-WORM.

(a) Larva, which does the damage; (f) pupa, next stage after the larva; (h) adult moth, which lays eggs; (b, c, d and e) other details of structure.

Now it should be borne in mind that the cut-worm of its own choice would no doubt prefer to feed upon grasses rather than vegetables. If the land where they are is put into cultivation, then their food is destroyed and they have no choice but starve, or attack the plants which you put there. This has a very important bearing on the question of remedies.

## REMEDIES.

The most logical way to avoid cut-worm injury is not to plant garden crops in land just from sod, but provided there are cut-worms in the soil, any or all of the following methods may be used to forestall their injuries:

Chickens.—If the domestic fowls are, or can be, encouraged to follow the gardener as he plows or cultivates they will pick up many of the cut-worms. The same suggestion will apply to wild birds.

Wrapping.—We are told that cut-worm injury can be largely avoided by wrapping the base of the plants before they are set out. This certainly seems reasonable. It would doubtless be well to use some soft material like tissue, or toilet paper, which will decompose and drop off after awhile for by that time the plants will not need the protection. The wrapping should extend from where the roots begin to one or two inches above the surface of the ground.

Digging Out.—This was the only method which we employed this year, although next we expect to use the wrapping, and the bait method, next described. Each individual cut-worm no doubt destroys a good many plants; therefore, when we find a cut plant if we will at once dig about the root we will often (yes, usually) find the worm, and by killing it we prevent further damage. We have no doubt that we saved many plants by this practice. Under this same head we may say that one should also watch closely for the worms when hoeing in the garden.

Poisoned Bait.—This is the method which is usually practiced in large cabbage or tobacco fields: Mix thoroughly one-half pound of paris green with twenty-five pounds of wheat bran. Stir together until every particle of the bran will have some grains of the poison on it. Now stir one quart of molasses into about two gallons of water, pour it over the bran and stir until it is well mixed. Now add water enough to bring the whole to a thick mash so that it can be handled without dripping. This poisoned material is then dropped along the rows close to, but not exactly in, the places where the plants are to be set. The worms eat it in preference to the plants. Of course chickens and other valuable animals must not be allowed to get at it. We have seen as many as four dead cut-worms to one dose of this bait. It is better to have the dose shaded in some way to prevent rapid drying out. This may be done by applying at dusk in large areas, or by covering with leaves in gardens. One handful in a place is sufficient.

For use in small areas, the green would be used at the rate of one ounce to three pounds bran with molasses and water to suit.

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