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you to recognize these early stages in swift-running streams in your neighborhood. If the period during which the flies appear should be short, and if you are able to keep the fowls in a dark house during this period, you will probably find it advantageous to do so. The best applications to be made are indicated in the report, and will probably prove to be fish oil or something similar. Persian insect powder puffed upon the fowls will kill all of the gnats which happen to be on it at the time, but will probably not act as a preventive. * * *.—[April 16, 1888.]

THE BLACK-POLLED TITMOUSE DESTROYING CANKER WORMS.

Palaearcta vernata, or Spring Canker-worm, seems to be troubling our orchards hereabouts for the first time. I notice the birds and chickens are destroying a host of them. If London purple does not kill both, all will be well. One little bird, the black-pollled chickadee or titmouse (*Parus atricapillus*), is hungry for them.—[W. S. Newlon, Oswego, Kans., April 23, 1888.]

KEROSENE EMULSION AND THE CABBAGE MAGGOT.

Your kerosene emulsion has done wonders on *Anthomyia brassicae*. We have used it on our cabbage, that was badly infested with cabbage fly, and now, upon examination, they are entirely gone and the plants not hurt the least, but your formula is too strong; 9 gallons of water to 1 of kerosene has killed all the plants we put it on; after that we mixed it 12 gallons of water to 1 gallon of emulsion, and this has done no harm to the plants, but has destroyed all the worms.—[Zimmer Bros., Mobile, Ala.]

AFTER EFFECT OF THE OVIPOSITION OF THE PERIODICAL CICADA.

* * * Five or six years ago the so-called 13-year locusts did great damage to our orchards. I send a cut from a twig which shows their work. The wounds are on the underside of every branch less than an inch in diameter. Trees in such plight can not give crisp and juicy fruit. The apples are small, wilted, and tough, and let go their hold on the tree with a slight breeze. My row of Rome Beauties fruited heavily the past two years. At harvesting time not more than a dozen remained on the trees. It was the same with other varieties.

As far as my observation extends other orchards are like mine greatly damaged by the locusts.

This is not a flattering statement, but I thought it right to give facts, and hope to be able to give a more favorable account in future.—[A. G. Alexander, Queen City, Mo., February 13, 1888.]

[See fig. 3, plate V, Rept. Ent., Ann. Rept. Dept. Agr. 1885, for illustration of appearance of scars from puncture of Periodical Cicada after second year.]

MORE TESTIMONY ON THE BUCKWHEAT REMEDY FOR CUT-WORMS.

Have you ever noticed the effect of plowing under a crop of buckwheat to keep cut-worms off the land? It has been our experience the last fifteen years that wherever we turn under a crop of buckwheat we will not have any cut-worms on it; but this year has been the most remarkable of all. The seed we got from the North was of a very poor quality, hardly coming up at all. So we sowed the remaining seed, about two bushels, on a piece of about one-half acre. This gave us a good stand. Now everywhere cut-worms are plenty, except on the little piece where the buckwheat has been turned under. We always have been free from cut-worms on land we have plowed buckwheat under, while our neighbors have sometimes their whole crop ruined by them.—[Zimmer Bros., Mobile, Ala., February 6, 1888.]

AN APPLICATION FOR BUFFALO GNAT BITES.

In looking over your report for 1886 I do not see a preventive for buffalo gnats that I used successfully during the war. In the absence of fish oil, which had been used previously, I used tallow, with sufficient pine tar to make it stick the hair together, but not enough to take the hair off, as I was told it would. Lost none of about 90 mules and horses.—[Jona Pearce, Gwiney's, Va.]