

Press Bulletin No. 45. April 1907

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# The Agricultural Experiment Station

FORT COLLINS, COLORADO

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## THE SPRING GRAIN-LOUSE\*

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A small green plant louse, which is being called the "green bug" in some of the papers of the country, is doing serious damage to winter wheat in parts of Colorado, especially in the lower Arkansas valley. It would be well for all who are growing wheat in Colorado to be on the watch for brown spots in the wheat fields, due to the dying grain. Where these spots appear it will probably be found upon investigation that the cause is a small green louse, clustered upon the stems and leaves of the plants. A good way to detect the lice is to brush the plants and then examine the ground beneath them.

If the lice are at all abundant, reddish or yellowish lady-beetles with black spots and a sort of worm or grub about one-third of an inch long, dark in color with yellow markings, will be noticed in company with the lice. These grubs are the young of the lady-beetles, and both are the friends of the farmer, as they feed upon the lice. Where the lice are found in any considerable numbers, if they do not destroy the wheat crop, it will be because these lady-beetles and some other natural enemies of the plant lice increase in numbers enough to eat the lice before they kill the wheat.

### CAUSE OF THE LOUSE.

This has been a well-known pest upon wheat and other grains for several years in the States that grow winter wheat, and I have known of its presence in small numbers in Colorado for several years. The great increase this spring is probably due, first, to the small

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\**Toxoptera graminum* Rond., see Circular 35, U. S. Bureau of Entomology by Webster.

number of its natural enemies last fall, and, second, to the mild winter and early spring, which have favored its early increase in numbers. There can be little doubt but what the lice have been able to hibernate in all stages in the wheat through the winter.

In the sections I have visited, the lice were doing more injury to early than to late sown grain, and were more numerous in fields that were in to grain last year than in those that were planted to some other crop.

#### HOW LONG WILL THEY LAST?

I have been asked this question many times. The grain louse is probably with us to stay. It is probable that its natural enemies will keep it in check most of the time, so that it will only attract the attention of grain growers in occasional years, when the small number of its enemies and the weather conditions favor its increase.

The lice may remain in the wheat until the latter ripens, unless killed out earlier by its insect foes.

#### REMEDIES.

What can be done where the lice are in the wheat?

The application of coal oil emulsion or soap solutions in the form of a spray as for other plant lice would kill them, but I seriously doubt such applications being practical, unless it be in choice plots of seed grain.

Where the lice are very abundant and the grain seems to be dying rapidly and turning brown in spots over the field, I believe the safest plan would be to plow it under and put some other crop upon the land before it is too late, as the grain can only make a light crop at best. Anything but grain crops, such as wheat, oats, barley and rye, could be put upon the land. Potatoes, melons, corn, beets, peas, or reseeded to alfalfa would be all right. It is possible that this louse might injure corn to some extent.

If the lady-beetles are very numerous and the lice seem to be decreasing in numbers, it would be well to wait a few days and then decide whether or not the enemies of the plant lice are likely to destroy them in time to save the crop. If the prospect is very bad for the saving of the crop, the sooner it is turned under the better.