

## INSECT ABUNDANCE AROUND WILD LIFE AREA

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The question of what combinations of environments bring about the greatest concentration of crop pest insects is one of interest to every Illinois farmer. To get the correct answer to this question is far from easy; in fact we have at present only fragmentary data from which to draw any conclusions that might be used in giving the correct answer.

During the past four years an attempt has been made to gather data that may be used in answering the above question. Most of the work to date deals with the relative abundance and destructiveness of some of our more important field-crop pests in and immediately adjoining forest and wildlife protected areas, and with the abundance of the same pests in intensely-cultivated areas. The first work along this line was done in Christian county, where, through the efforts of the late Col. Seamans, an area of approximately 80 square miles of farm land was organized in such a way that most of the wildlife within the area would be protected. Only preliminary data were gathered in this area when, due to the sudden death of Col. Seamans, the project had to be abandoned.

During the last two and one-half years data have been taken at regular intervals in an adjoining large tract of woodland consisting of about five thousand acres. In this area wildlife of all kinds is carefully protected, and the owner is endeavoring to maintain this area in as nearly a natural condition as possible. This tract is the Allerton estate, and it is only through the permission and cooperation of the owner that these studies have been possible. The project has not been continued long enough to allow us to draw any definite conclusions from the data thus far obtained. Such data as we have indicate that destructive

insect pests are not as abundant in and immediately adjoining this area as is the case in an area five miles distant where at least 80 per cent of the land is under cultivation. The data taken have included regular collections of foot-square areas within the protected areas, these collections being made during the months when insects are in hibernation. Similar data are taken at the same time in the cultivated section. Observations on injury to field crops are made during the active season in an area of farm land adjoining the protected woodland, and also in the cultivated areas.

Comparisons in abundance of hibernating insects in areas under observation have been made by the periodic collections of cover containing the insects. Suitable types of insect hibernating quarters were selected and square-foot samples taken. By placing over the trash a metal ring having a square-foot area, all material down to solid soil was gathered into a paper bag. The collection of insects is obtained by placing the trash sample in a metal funnel about 10" in diameter at the top, with a coarse screen suspended about 5" from the top. By covering the funnel-top with cloth and heating the top of the funnel with a light bulb, resistance unit, or steam, the insects are driven downward and collected in a bottle of 70 per cent alcohol at the bottom of the funnel. The specimens in alcohol can then be sorted when convenient.

These data to some extent can be applied to the general area of central Illinois. To be of any value the work must be continued over a period of years. It would be decidedly helpful if others could assist in the work by taking similar data at other points in central and northern Illinois.

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