REPORT OF THE ENTOMOLOGICAL DEPARTMENT OF THE NEW JERSEY AGRICULTURAL COLLEGE EXPERIMENT STATION, FOR THE YEAR 1897, PP. 395-492

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JOHN B. SMITH

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Lawrence Kenshaw.

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ENTOMOLOGICAL DEPARTMENT

OF THE

New Jersey
Agricultural College Experiment Station,

BY

JOHN B. SMITH, SC.D.,

For the Year 1897.

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John B. Smith

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General Review.

As compared with the years immediately preceding, the early season of 1897 was wet and cold. The result is, that quite different insects attracted attention, while some most troublesome in 1896 were absent in 1897.

A marked example is the *Army worm*, not a complaint of which was received. In collecting at sugar, the moths were rarely seen until late, and not then in abundance.

The *Hessian fly* also dropped out of sight; not an instance of injury having come to notice. The insects are still with us, ready to increase whenever circumstances become favorable, hence the precautionary measure of late planting should continue to be practiced.

The *Pear midge* has made no spread and seems to have been actually stamped out in certain localities. The infested point near New Brunswick has been cleared by uprooting most of the old trees referred to in previous reports, while the land has been thoroughly cultivated. It is too much to expect that the insect has been really exterminated; but it need cause no further alarm if the recommendations in previous reports be heeded.

The *Sinuate pear borer* has also been checked, and in some places destroyed. Near Roselle, where it was abundant three years ago, persistent weeding out of infested trees has been so effective that none were observed in 1897. It is still present around Irvington, where Clerid larvæ are doing much to lessen it—at least half the burrows examined having the predatory species instead of the borer.

The *Wood leopard moth* is holding its own; but I have no accounts of any extension into new territory. New parts of Newark and

Elizabeth have, however, reported the species, and many dead trees have been taken out. No effort has been made to check further spread.

The *Elm beetle* has been less abundant than usual, more because of the conditions in 1896, than of adverse surroundings in 1897. Few specimens hibernated in their usual quarters, and the College janitors early reported that where they had been used to sweeping up hundreds on the arrival of warm weather, they then found only isolated specimens. The beetles were late in appearing, and so few egg patches were seen that it was decided to omit spraying the College elms against the adults. Though the number of larvæ seemed disproportionately great as compared with the adults observed, it was decided to omit spraying altogether, especially as everything pointed to a wet season, in which the trees would be able to resist or repair injury. The decision was justified by the result, the trees remaining in good condition to the end. As the number of hibernating beetles was small, an unusual opportunity for choice was afforded, hence European and smooth-leafed varieties suffered much more than the thick, rough-leafed types. Some of the former were as severely injured as ever before, while the others were nearly free and practically uninjured. The larvæ pupated and changed to adults in good condition; but the new beetles did no feeding, and were driven, by stress of weather, into early winter quarters. After August 1st not an elm beetle in any stage was observed in New Brunswick, and there was not even the fragmentary second brood that has been observed for several years. These conditions apparently prevailed throughout the State, for I had few complaints, and observed no badly-injured trees anywhere.

The *Maple pseudococcus* was present in scarcely noticeable numbers. Trees plastered with it two years ago were free, and on only a few New Brunswick trees was there even a slight development. I recorded in 1896 a decided decrease in this insect, questioning whether climatic conditions were in any way responsible. This year the decrease has been even more marked, while the climatic conditions have been completely opposite. It seems another instance where an ordinarily scarce species increases beyond all precedent and then slowly drops back into its former inconspicuous condition. Yet it would not be safe to say that next season will not witness a renewal in the activity of the insect.