

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

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649691135

Report of the Entomological Department of the New Jersey Agricultural College Experiment Station, for the Year 1897, pp. 395-492 by John B. Smith

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**JOHN B. SMITH**

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



1529  
Sam'l Kenshaw.

REPORT  
OF THE  
ENTOMOLOGICAL DEPARTMENT  
OF THE  
New Jersey  
Agricultural College Experiment Station,  
BY  
JOHN B. SMITH, SC.D.,  
*For the Year 1897.*

---

TRENTON, N. J.:  
THE JOHN L. MURPHY PUBLISHING CO., PRINTERS.

1898.

JJ

With Compliments of  
John B. Smith

---

---

CONTENTS.

---

---

## CONTENTS.

---

	PAGES
REPORT OF THE ENTOMOLOGIST.....	395-492
General Review.....	397-407
Army-worm.....	397
Hessian Fly.....	397
Pear Midge.....	397
Sinate Pear Borer.....	397
Wood Leopard Moth.....	397
Elm Leaf Beetle.....	398
Maple Pseudococcus.....	398
Harlequin Cabbage-bug.....	399
Plant Lice on Fruit and Shade Trees.....	399
Tomato Lice.....	400
Strawberry Root Lice.....	400
Borers—Experiments on.....	400
Dendrolene.....	400
Wire-worm Experiments.....	401
Insecticides—Trials of.....	401
Paris Green—Analyzed.....	401
Kerosene Emulsion Sprayers.....	401
San José Scale.....	401
Cranberry Orthoptera.....	401
Cut-worms.....	401
Strawberry Leaf Bollers.....	402
Strawberry Weevils.....	402
White Grubs.....	402
Potato Beetles.....	402
Tortoise Beetles.....	402
Rose-chafers.....	402
Tulip Soft Scale.....	403
Root Web-worms.....	403
Canker-worms.....	403
Asparagus Beetles.....	403
Cabbage-worms.....	403
Saw-flies.....	403
Butternut Woolly Worm.....	404
Poplar Saw-flies.....	404
Bag-worms.....	404
Codling-moth.....	404
Plum Curculio.....	404
Round-headed Apple Borer.....	405

## CONTENTS.

REPORT OF THE ENTOMOLOGIST—Continued.	PAGE
Pear Blister Mites.....	405
Pear Slugs.....	405
Fig-eater.....	405
Grape Procris.....	405
Maple Galls.....	405
Institute Meetings.....	406
Correspondence.....	406
Bulletins.....	406
Collections.....	406
Acknowledgments.....	406
Paris Green as an Insecticide.....	407-411
Analyses of.....	408
Kerosene Emulsion Sprayers.....	412-414
Kerosene.....	414-425
Marlatt's Experiments.....	415
Record of Nursery Plants Sprayed.....	420
Professor Powell's Experiments.....	424
Experiments with Dendrolene.....	425-431
Whale-oil Soap.....	431-436
Formula for.....	432
Alkali in Four Samples.....	433
The San José Scale.....	436-492
Distribution of.....	436
Introduced Lady-birds.....	438
The Nursery Problem.....	440
Certificates.....	443
How the Scale Spreads.....	445
Observations and Experiments in 1897.....	446
Red Shale.....	447
Sulphate of Iron.....	447
Hydraulic Cement.....	449
Whale-oil Soap.....	450
Kerosene.....	459
Fumigation.....	467
Fungous Diseases.....	470
Biology of the Fungus.....	479
Field Notes.....	483
Conclusions.....	487
Remedial Measures.....	488
Explanations.....	489
Finally.....	492



---

---

REPORT OF THE ENTOMOLOGIST.

---

---

(995)

## REPORT OF THE ENTOMOLOGIST.

JOHN B. SMITH, SC.D.

### 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-leaved varieties suffered much more than the thick, rough-leaved 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.