

## THE PEAR THRIPS

(By Dudley Moulton of the Department of Agriculture, engaged in Deciduous Fruit Insect Investigations.)

### Introduction.

This paper brings together the results of an investigation of the life history, habits, natural enemies, and methods of control of the pear thrips (*Euta. ips pyri* Daniel), a pest of deciduous fruit trees in the San Francisco bay region of California. The investigation was undertaken at the request of the Santa Clara county board of supervisors, who furnished the funds and liberally granted necessary facilities for a thorough and scientific study, and was carried out in the Santa Clara valley, where the thrips seemed to be at its worst. The investigation extended through a period of fifteen months, from February, 1904, to April 1905.

The writer offers this paper rather as an introduction for future work than as a completed account, and it is intended especially for the fruit grower, that he may understand the nature of the insect and its injury. The alarm felt for the safety of the deciduous fruit industry, which the pear thrips caused during 1904 and 1905, in the light of our present knowledge need not again be experienced, and, although no effective means of control are yet offered, a knowledge of the life habits should do much to clear away the uncertainty usually following the first appearance of a destructive pest in any locality.

**Nature and Extent of Injury.**  
Injury to plants is the direct result of the feeding and ovipositing of the thrips.

**Description of the Mouth Parts.**  
The mouth parts of thrips project from the lower posterior side of the head and have the appearance of an inverted cone. The mouth opening is in the small distal end, and through it the stylets or piercing organs are projected when the insect is feeding. The rim at the tip is armed with several strong, chitinous points, which figure prominently in tearing open the plant tissues. The insect first pierces the plant epidermis with the stylets, then, moving the cone tip backward and forward, it enlarges the opening and lacerates the plant

tissue by means of the barbed snout. It then pushes the tip of the mouth cone into the puncture thus made and sucks in the plant juices. Larvae feed in a similar way, having similarly constructed mouth parts.

**Relation of the Budding and Blossoming of Trees to the Feeding Habits of Thrips.**

The dark brown adult thrips arrive on the trees in late February and early March, the period of early opening buds and first blossoms; they are common in March and April, the two months of bloom and early leaf, and are all gone from the trees by the middle of May. Only a few adults can be found after the first of May, and most larvae have reached full growth by this time and have gone into the ground. Thus it is that the active feeding stages of the thrips coincide with the budding, blooming and early leaf periods of the host trees.

The difference in bud formation and progress of development of various deciduous trees influence to a large extent the manner of injury which thrips inflict. Trees may be divided for the sake of convenience in regard to the bud structure into two groups, namely: (1) Those in which a single fruit bud produces one blossom, such as the almond, apricot and peach; and (2) those in which a single fruit bud opens out to form a cluster of blossoms which later produces a cluster of fruits, as the prune, cherry, pear and apple.

The relative blooming periods of the several varieties of fruit on which thrips inflict injury, as found in the Santa Clara valley, may be noted as follows:

Group 1—Almonds, late in February; apricots and peaches, early in March.

Group 2—Prunes, middle and last of March; cherries and pears, early in April.

These periods vary from year to year and the varieties of each fruit also vary to a large degree, but the general order of blooming is suggestive. Opening buds precede full bloom by eight or ten days.

(To Be Continued.)

## ROLLING PIN KILLS THIEF

Woman Strikes Burglar Over Head With Cuspidor, Then Knocks Him Through Window With Rolling Pin—He Is Picked Up Dead.

NEW YORK, May 26.—"I think a burglar is dead in my yard," said Mrs. Dora Geitman to two policemen today who had been summoned to her third-floor apartment by her cries for help.

"A man entered my room and I threw a cuspidor at him, knocking him down. He arose and grappled with me. We struggled until we reached the kitchen. There I grabbed up a rolling pin and hit him on

the head. He fell through a window, taking the glass with him."

The policemen descended and found the dead body of Lewis Glatch, long suspected as a lead roof east side thief. Glatch wore "sneaks" and in his pockets were found jewels taken from the Geitman apartments.

Mrs. Geitman was not arrested.

## ALASKA FISHERMEN BROKE BLUE LAWS

JUNEAU, Alaska, May 26.—Fishing for salmon on Sunday is prohibited by Uncle Sam in Alaska, not because of any moral issue, but for the purpose of preventing the annihilation of the fish.

Eight fishermen, who took Uncle Sam's Sunday "blue law" as a joke, are in the federal jail here today, unable to give bail. The men were caught in Taku inlet, where the salmon run is now heavy. It is probable that the cannery-owners will arrange for their release under bonds.

## COOK YOUR BEEFSTEAK IN A CASSEROLE

### Receipt

Into a nice round steak pound all the white flour it will absorb. Season with pepper, salt and a bit of onion if liked. Cut in pieces suitable for serving. Place in a warm casserole. Make a rich gravy from drippings and pour over the steak. Cover closely and set in a moderate oven for one and a half hours. Serve hot in casserole.

BUY THE CASSEROLE AND STEAK OF

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MARKET PHONE 281.

## PLOT TO SLAY KING ALFONSO

Evidence Found Proves Existence of Conspiracy to Slaughter Ruler and Consort—Guards Doubled About the Throne.

MADRID, May 26.—The revelation of a formidable plot to assassinate King Alfonso and Queen Victoria of Spain caused the doubling of the king's bodyguard today. The death of Callemayor by his own hand, after the premature explosion of a bomb, is reported by the police and is regretted, as they believe it prevents them from learning the identity of persons now engaged in further plots to kill the Spanish rulers.

Following Callemayor's suicide, the police ransacked his rooms and gathered evidence showing that plans to kill King Alfonso are still under way. The evidence threw no light upon the identity of the persons engaged in the plot.

## DUPLICATE PIER IS SHOWN IN TRIAL

MAY'S LANDING, N. J., May 26.—A duplicate of the pier railing at Atlantic City, where Miss Jane Adams lost her life while in the company of William Seyler, charged with her murder, was set up in the courtroom here today by the defense.

Seyler's attorneys contended that Miss Adams stumbled over the lower rail and plunged into the ocean before Seyler could go to her assistance. The prosecution alleges that Seyler struck the girl, causing her to fall to her death.

## EIGHTEEN INJURED IN RIO GRANDE WRECK

CUCHARA JUNCTION, Colo., May 26.—Eighteen persons were injured when two coaches of a Rio Grande train were derailed near here yesterday. A broken rail is believed to have caused the derailment. No one sustained serious injury.

WE WANT ONE-THIRD OF THE PEOPLE OF MEDFORD TO TRY RARDON'S PEERLESS BREAD. THE OTHER TWO-THIRDS ARE ALREADY USING IT.

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We handle the famous Singer Sewing Machines, than which no better has ever been put on the market. If you want a machine that will do a lifetime of satisfactory work and generally without a moment spent in repairs, buy a Singer.

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THE NEW NO. 4 MOWER as a grass cutter, has no equal; the number in use being more than any other similar machine. Symmetrical and substantial main frame, simple and powerful gears, light draft, etc., etc., make this a very desirable machine.

THE NEW BIG 4 MOWER is a wonder. Come and see these mowers and rakes and we will sell you one sure.

Hubbard Bros.

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## The Pasadena of Oregon

People of refinement; people with means; retired business men; professional men; college and university graduates, are coming to the Rogue River Valley by the score. Within the past two years almost a hundred Chicago and Evanston, Illinois, people have purchased homes near Medford, and nearly every one of them has a friend or two whom they hope to induce to come and locate in the valley.

New York, Philadelphia, Boston and many other eastern cities are almost if not quite as well represented, while St. Paul and Minneapolis have more representatives here than any other several cities combined.

Think these statements over and get your thinker going. Write to the undersigned or the Medford Commercial Club for detailed information about the country, and you will never have cause to regret it.

## Bearing Orchards Near Medford

Most of the producing orchards have been held in large holdings until recently. A few weeks ago the Eden Valley Orchard, containing 605 acres, was placed on the market in any desired acreage. We have been authorized to offer the bearing apples and pears for sale, and if you know anything about the country and want a desirable block of bearing trees, write or come soon. During the past week over \$150,000 worth of the property has been disposed of. It is located within two miles of Medford at an elevation of about 100 feet above the city and is one of the best kept orchards in the world. Parts of the orchard offered for sale have paid the owner over \$600 per acre per year for four years straight.

Do not come unless you are prepared to stay, for just so sure as you do come the combination of fat soil, grandeur of scenic beauty and Italian climate will steal you, body and soul. After one visit here you will be miserable any other place on earth.

# John D. Olwell

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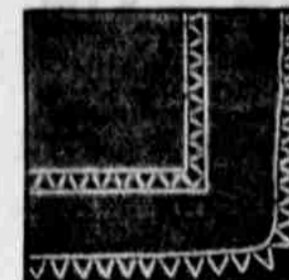
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## CAMBRIDGE BESTOWS DEGREE ON ROOSEVELT

CAMBRIDGE, England, May 26.—An honorary degree of doctor of laws was conferred upon Theodore Roosevelt by the University of Cambridge today. The students of the university called upon the colonel for a speech, but Roosevelt refused to address them.

## Rockefeller Succeeds Harriman.

NEW YORK, May 26.—William G. Rockefeller today assumed his duties on the board of directors of the Pacific Mail Steamship company in the place made vacant by the death of E. H. Harriman.

Want to find a stenographer to whom your work will always seem the most important? Want-advertise.

## NOTICE OF SALE OF \$50,000.00 SCHOOL BONDS, DIST NO. 49, JACKSON COUNTY, ORE.

Bids will be received up to June 1, 1910, at the hour of 2 o'clock p. m. of said day, by Jas. M. Cronemiller, treasurer of Jackson County, Oregon, for the purchase of \$50,000.00 (fifty thousand dollars), coupon bonds, of \$1,000.00 denomination, to be issued by School District No. 49, of Jackson County, Oregon, payable in twenty years, ten years' optional, bearing 5 per cent interest per annum, interest payable semi-annually. Bids to

be accompanied by certified check, 5 per cent of the amount of the bid. The board of directors of said school district No. 49 reserve the right to reject any and all bids.

JAS. M. CRONEMILLER, Treasurer of Jackson County, Oregon. Dated this 5th day of May, 1910.

## NOTICE TO STOCKHOLDERS.

Notice is hereby given that the annual meeting of stockholders of the Pacific and Eastern Railway will be held at the office of the company, in Medford, Oregon, on Monday, June 6, 1910, at 10 o'clock a. m. By order of the President. G. P. HUMPHREY, Secretary.