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#### NEWS LETTER



# PLANT QUARANTINE AND CONTROL ADMINISTRATION UNITED STATES DEPARTMENT OF AGRICULTURE

Number 4

(NOT FOR PUBLICATION)

April, 1931.

#### ADMINISTRATIVE

Mr. Hunter H. Kimball, who for the past ten months has been in charge of the field inspection work on Mediterranean fruit fly in Florida under the direction of Mr. Hoidale, has been transferred to the pink bollworm project. Mr. Kimball will assist Mr. R. E. McDonald in the general administration of the pink bollworm quarantine and scouting and eradication work.

It is with much regret that we announce the transfer of Mr. Rohwer from the Plant Quarantine and Control Administration, to become Assistant Chief of the Bureau of Entomology. The field leaders of the projects in the Plant Quarantine and Control Administration are fully familiar with the tireless energy and attention to details which characterized Mr. Rohwer's work, and the results of his efforts are clearly apparent in the progress which has been made in the quarantine work during the time he has been identified with it. Secretary Hyde has made the following announcement:

"S. A. Rohwer, assistant chief of the Plant Quarantine and Control Administration, U. S. Department of Agriculture, has been selected by Secretary Hyde and Dr. C. L. Marlatt, Chief of the Bureau of Entomology, to become assistant chief of the Bureau of Entomology, an office made vacant recently by the resignation of John E. Graf. Mr. Rohwer will take up his new duties April 1.

"Secretary Hyde, in commenting on the appointment said: 'Mr. Rohwer has made a rare contribution to the important regulatory work of the Plant Quarantine and Control Administration. Lee A. Strong, Chief of that Administration, although reluctant to lose Mr. Rohwer's services has concurred in order that the Bureau of Entomology might have an executive in the important position of assistant chief who is already familiar with the bureau's manifold responsibilities.'

"Mr. Rohwer attended the University of Colorado, and entered the Bureau of Entomology in 1909. His first task was a study of forest tree insects. Later he was placed in charge of this work

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Secretary Secretary Street to do mentions on the appointment of the Release in the Release of the Relation of the Re

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for the eastern district of the United States.

"Throughout his services with the Bureau of Entomology, Mr. Rohwer has been interested particularly in identifying and classifying insects, and was in charge of this work in the bureau for several years.

"In 1927 he became business manager for the bureau, and in addition to his other duties helped to reorganize the regulatory work of the department under a new unit, the Plant Quarantine and Control Administration. When this unit began work on July 1, 1928, he became assistant chief."

The Second Deficiency Act, which was approved during the closing days of the last session of Congress, reappropriated the unexpended balance of funds available this fiscal year for work on the Mediterranean fruit fly. The conditions under which the funds may be used were given in the last number of the News Letter. This act also makes supplemental appropriations to meet salary increases authorized under the Brookhart Act of July 3, 1930. The appropriation for this purpose to the Administration is \$10,363.

We have recently been advised that in some instances unsealed envelopes were being received in field offices, and steps have been taken which it is hoped will prevent future occurrences of this kind.

We have also found that in a few instances large manila envelopes have been received from field offices in an unsealed condition. This applies more particularly to envelopes having several enclosures. The Washington office has adopted a policy of sealing such envelopes with strips of gummed paper, and the field offices might find it desirable to follow this practice or to seal the envelopes with wax.

## TECHNOLOGICAL

The plans for the new car fumigation house at Presidio, Tex., have been completed and bids on the construction have been obtained. Construction of the building will begin soon. The house will be 148 feet long by 59 feet wide overall and will be of brick on concrete foundation with tar and slag roof. One feature of the plant is the new type of steel sliding door, so constructed that it seals tightly in the last half inch of travel. The cost of the plant, including the electric lighting system, will be about \$20.000.

The drafting of plans was done by E. M. Dieffenbach, who will be at Presidio while the building is under construction.

Mr. A. G. Galloway has recently designed an incinerator for the ports of entry on the Mexican border to be used for the destruction of confiscated fruits, vegetables, and other plant material. The incinerator is constructed

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of brick, lined with fire brick, and equipped with cast iron grates. The burner is of the vaporizing type, using kerosene, or a mixture of kerosene and gasoline. In tests at El Paso, Tex., it consumed 100 pounds of miscellaneous fruits and vegetables in 40 minutes with a fuel consumption of  $1\frac{1}{4}$  gallons.

The complete incinerator will cost to install between \$80 and \$100 per unit.

Mr. J. M. Luckie is leaving Orlando, Fla., for Laredo, Tex., to work with the Foreign Plant Quarantine Division in the repair and improvement of the fumigating equipment along the border. He has been making tests on the effect of heat treatment of fruits and vegetables in Florida, which work is about completed. In recent work on this project, it has been shown that temperatures around 115° F., with a relative humidity of 80 per cent and an exposure of 6 hours, yield better results with some types of citrus fruit than 110° F., for 8 hours with a saturated atmosphere.

## FOREIGN PLANT QUARANTINES

#### RECENT INSECT INTERCEPTIONS OF INTEREST

The Mediterranean Fruit Fly (Ceratitis capitata) was intercepted at Providence, R. I., in loquat from the Azores. Previously this fruit fly has been intercepted by inspectors of the Plant Quarantine and Control Administration in apple, guava, loquat, orange, peach, and pear from the Azores, and in loquat from the Azores, Bermuda, Madeira Islands, and Portugal. (See also News Letter No. 1, January, 1931; No. 2, February, 1931, and No. 3, March, 1931.)

A larva of <u>Psylliodes chrysocephala</u> (Chrysomelidae) was intercepted at Philadelphia in a turnip in stores from Spain. While we have records of this insect being taken in turnips from England and France, this represents the first interception by inspectors of the Administration of this chrysomelid in turnip from Spain. Dr. Boving informs us that fields attacked by this insect appear as if all the plants had been killed by frost. This is a European species not reported from the United States. (See also News Letter No.1, January, 1931.)

Cionopsis palliatus (Curculionidae) was intercepted at Washington, D.C., in the seed of Cardiospermum sp., from Jalisco, Mexico. As far as known, nothing hitherto has been recorded as to the food habits of this weevil. The species was originally described by Champion from Guatemala and is new to the National Museum collection.

Caryedon fuscus, a bruchid not reported from continental United States, has been frequently intercepted in tamarind pods from India. Pachymerus gonager is a synonym of Caryedon fuscus. This insect has been taken in the follow-

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ing hosts (mostly seeds and pods): Algaroba, Bauhinia acuminata, B. malabarica, cascara, Cassia fistula (golden-shower), C. grandis (pink-shower), C. nodosa, C. sp., Delonix regia (royal poinciana), Erythrina monosperma (wiliwili), legume, Prosopis vidaliana, and tamarind. It has been intercepted from Ceylon, Dutch West Indies, Egypt, Hawaii, India, Jamaica, Philippines, and Tanganyika.

Larvae of <u>Blastodacna hellerella</u> (Cosmooterygidae) were intercepted at Washington, D. C., in the bark and around the buds of scions of <u>Malus</u> sp., from Germany. This insect is recorded from central Europe where it feeds in the fruit of apple and <u>Crataegus</u>.

The citrus blackfly (Aleurocanthus woglumi) was found on the foliage of lime, orange, and citrus from Cuba. It has also been intercepted from the Bahamas, Brazil, Costa Rica, Haiti, and Jamaica. This aleyrodid was introduced into the Tropics of the New World from the East Indies.

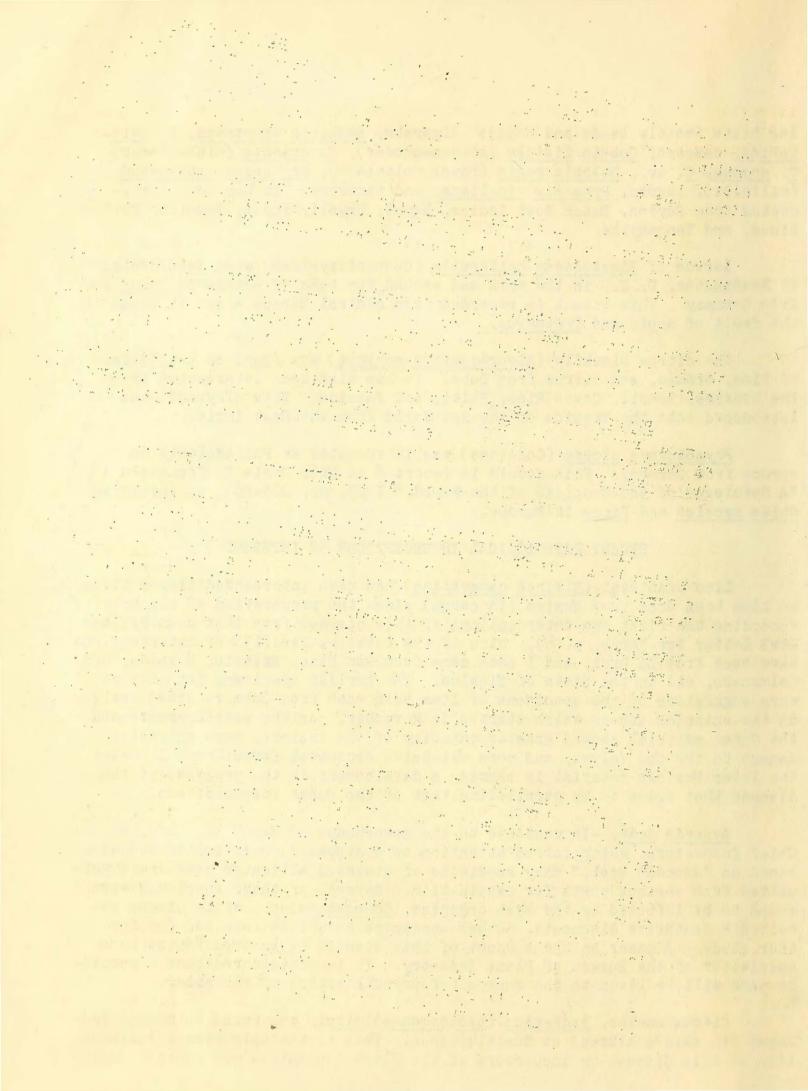
Physokermes piceae (Coccidae) was intercepted at Philadelphia on spruce from Germany. This coccid is reported in Mrs. Maria E. Fernald's "A Catalogue of the Coccidae of the World," 1903, pp. 208-209, as infesting Abies excelsa and Pinus in Europe.

#### RECENT PATHOLOGICAL INTERCEPTIONS OF INTEREST

Lima bean scab (Elsinoe canavaliae) has been intercepted eleven times on Lima bean pods from Mexico (in cargo) since the preparation of the note recording the first two interceptions of this disease from that country (see News Letter for March, p. 6). Nine of the total number (13) of interceptions have been from La Cruz, and l each came from San Blas, Rosario, Rosales, and Caimanero, all in the State of Sinaloa. The earlier specimens from Mexico were suggestive of the specimens of Lima bean scab from Cuba received early in the shipping season which started in November. As the season progressed the Cuban material showed greater maturity of the lesions, more extensive damage to the pod valves, and more extensive ascomatal formation. Likewise, the later Mexican material is showing a development in the progress of the disease that seems to be paralleling that of the Cuban interceptions.

Avocado Scab. -- In response to the memorandum of March 31, 1930, to Chief Inspectors, which called attention to a diseased condition of avocados known as "Avocado Scab," many specimens of diseased alligator pears were submitted from various ports for examination. Several of these specimens were found to be infected by the scab organism, Sphaceloma sp., while others received a tentative diagnosis. Other specimens have been retained for further study. A paper on the subject of this disease is in preparation by a specialist of the Bureau of Plant Industry. It is anticipated that a specific name will be given to the fungus before publication of the paper.

Citrus canker, <u>Bacterium</u> (<u>pseudomonas</u>) <u>citri</u>, was found on orange from Japan (in ship's stores) at Seattle, Wash. This is the only recent interception of this disease by inspectors of the Plant Quarantine and Control Admin-



istration, although it has been found numerous times in the past. The News Letter for March, p. 8, reports interceptions of it by the collaborators at San Francisco from China, Japan, and the Philippine Islands during the year 1930.

Six corms of Cyclamen neapolitanum from Holland (in cargo), intercepted at Washington, D. C., were found to be badly decayed. Tissue cultures made by a specialist of the Bureau of Plant Industry from the freshest margin yielded a Phoma. There is a species of Phoma, known as a leaf spot, parasitic on Cyclamen, but the specialist has no record of its causing corm decay.

Some string beans from Mexico (in cargo) were found at El Paso, Tex., to be heavily infected with a rust, <u>Uromyces appendiculatus</u>, and a generous specimen was submitted to the Washington office. While the presence of the rust sori on the pods is not uncommon, they are usually more numerous on the under surfaces of the leaves.

A leaf spot, <u>Phyllosticta camelliae</u>, was intercepted on Camellia leaves from Japan (in baggage), at Seattle, Wash. This spot is reported in Stevenson's <u>Foreign Plant Diseases</u> as occurring on leaves of <u>C</u>. japonica in Denmark, France, and Austria, and on <u>Thea</u> sp. in Japan.

Phyllosticta pittospori, a leaf spot recorded in Stevenson's Foreign Plant Diseases on Pittosporum tobira in France and Italy, was intercepted on leaves of Pittosporum sp. from Japan (in furnishings) at Seattle, Wash.

Anthracnose, caused by <u>Colletotrichum pollaccii</u>, was found on Aucuba from Japan (in furnishings) intercepted at Seattle, Wash. According to Stevenson's <u>Foreign Plant Diseases</u>, this disease is recorded only in Japan.

Phoma cajani was found on pigeon pea from Porto Rico (in ship's stores) at Philadelphia, Pa. Stevenson's Foreign Plant Diseases, p. 33, says: "On stems of C. indicus in Brazil."

A leaf spot, <u>Cercospora brassicicola</u>, was found on <u>Brassica japonica</u> from Japan (in ship's stores) at Seattle, Wash. According to Stevenson's <u>Foreign Plant Diseases</u>, this disease is reported on <u>B. chinensis</u> and <u>B. pekinensis</u> from Japan and the Philippines.

A yam from South Nigeria, Africa (in cargo), intercepted at New York City, was found to have a rot caused by <u>Diplodia tubericola</u>, the fungus causing the Java Black Rot of sweetvotatoes which is a major storage disease of this crop. Dr. Harter, in U. S. D. A. Technical Bulletin No. 99, <u>A monographic study of sweet-potato diseases and their control</u>, says "Java black rot, caused by <u>Diplodia tubericola</u> (E. and E.) Taub., is very widely distributed, and the total loss caused by it is large. Sweet potatoes infected with this organism have been received from Cuba, Isle of Pines, the Philippine Islands, Japan, Porto Rico, South America, and other countries. It has been collected in every part of the United States where sweet potatoes are grown."

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The perfect stage of the cane-blight fungus, <u>Leptosphaeria conio-thryium</u>, was found on gooseberry plants from Germany (in mail) at New York City. This disease is widely distributed in the United States and occurs on several hosts including roses, blackberries, and raspberries.

A leaf spot of Lima beans caused by <u>Cercospora</u> <u>canescens</u> was collected twice in Porto Rico—once each in the field at Rio Piedras and Arecibo. According to Seymour, this spot is reported on beans from North America.

A specimen of lemon, purchased in Germany and intercepted at Philadelphia, Pa. (in ship's stores), showed a spot caused by Septoria sp. The lemon was recorded by a painting by an artist of the Bureau of Plant Industry and the picture will be a part of a collection in the Office of Fruit and Nut Diseases.

Both stages of the bean anthracnose fungus were found on a specimen of diseased Lima beans from Porto Rico, collected in the field at Rio Piedras. The perfect stage is Glomerella lindemuthiana while the conidial stage, so frequently found on beans, is Colletotrichum lindemuthianum.

A rotted root of Bowenia serrulata was intercepted from Australia (in cargo) at Chicago, Ill. The cause of the rot was determined after some study as Botryosphaeria ribis chromogena, a parasitic variety of this fungus. B. ribis is reported as causing a cane-blight of currants in some parts of the United States.

Ascochyta sedi (I Diplodina sedi) was found on stems of Bryophyllum sp., from Bermuda (in baggage) at New York. The specialist making this identification says "First report of an Ascochyta on Bryophyllum."

A Phoma sp. was found in a rotted parsnip root from Sweden (in ship's stores) intercepted at Philadelphia, Pa. A species of Phoma is reported as causing a root rot of parsnip in England.

The root-knot nematode, <u>Caconema radicicola</u>, was found in a yam from Japan (in baggage) at Seattle, Wash. This nema is widely distributed on many hosts.

The nemas found in potatoes from Denmark (in ship's stores) at Philadelphia, Pa., were identified as Paraphelenchus pseudoparietinus. This is the first interception record of this nema in any host, in the files of the Plant Quarantine and Control Administration. It belongs to a genus that is considered to be plant parasitic.

A root from Cuba, intercepted at New York and submitted under the common name "malanga", was found to be infested with the common root-knot nematode Caconema radicicola. The root was identified as Xanthosoma sp., and somewhat resembled the dasheen which is also a well-known host of this eel-worm.

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Tylenchus dipsaci has been intercepted in leaves accompanying cut blooms of Narcissus from Canada at New York and Detroit. Infestations were found in the varieties Soleil d'Or, Paper White, Victoria, King Alfred, and Golden Spur.

Aphelenchus avenae was found in potatoes (in ships' stores) from Argentina at New Orleans, La., and from Spain at Philadelphia, Pa.; from Prince Edward Island (in cargo) at Philadelphia; from England (in ship's stores) at Savannah, Ga.; in carrots from Brazil (in ship's stores) at Philadelphia. Tylenchus dipsaci was found in potatoes from England (in ship's stores) at Gulfport, Miss., and at Savannah; from New Brunswick (in cargo) at Philadelphia. T. pratensis was found in potato from Argentina (in ship's stores) at New Orleans. T. (pratensis?) was found to be fairly numerous in the rind of a yam from West Africa (in quarters) intercepted at Philadelphia.

#### LIMA BEANS NOT ENTERING FLORIDA FROM THE NORTH

This office is advised (February 26, 1931) by Paul H. Thomas, State Inspector of Florida at Jacksonville, that a recent careful check of south-bound produce movement at that point indicates no movement of Lima beans into Florida from the North. The occasional shipments seen proved to be of Florida origin. This information is of interest in view of the possibility of danger to the southern Lima bean areas from the bean pod borer (Maruca testulalis), and the Lima bean scab (Elsinoe canavaliae), both of which have been frequently intercepted on Cuban Lima beans entering the port of New York.

#### SUGGESTION FOR BULB INSPECTION

Dr. Freeman Weiss, of the Bureau of Plant Industry, to whom we submit many bulb diseases for identification, suggests that the inspector add a note to his record stating whether the (Penicillium) rot occurs on the scales or is centered in the base of the bulb or corm. This point is of especial value in the case of bulbous Iris.

#### CHINESE POMELOS INTERCEPTED

Recently a shipment of 129 cases, manifested as Chinese green goods consisting of white nuts, taros, ginger, etc., arrived at San Francisco, Calif. Inspection revealed the presence of Chinese pomelos in 70 cases, a total of 560 fruits in all being found. As this apparently was a deliberate attempt to smuggle in contraband material, the entire shipment was confiscated by Customs and the 70 cases containing the pomelos were destroyed by burning. The remaining 59 cases were sold at public auction.

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#### INTERCEPTION ON CLOSED BRIDGE

A short time ago the old bridge at Brownsville was temporarily closed to traffic by the Mexican customs officials. Although there appeared to be little possibility of prohibited material entering over this bridge while it was closed, plant quarantine inspectors remained on duty and as a result an interception of mangoes, two of which contained ten larvae of Anastrepha ludens, was made.

DETROIT INSPECTION OFFICE CONDUCTS SESSION OF CUSTOMS SCHOOL

On the evenings of February 24 and March 3, this office conducted the meetings of the Customs School, which are being held at the port of Detroit for all members of the Customs Service stationed in this port. This school has been in operation since the 18th of November, 1930. Such subjects as Baggage Declarations, Informal Entries, Marine, etc., are discussed by the heads of the various divisions at these meetings. At the request of the Collector of Customs at the port of Detroit, this office participated in these meetings with a discussion of Plant Quarantine regulations as they pertain to the Customs regulations. A total of 106 members of the Customs Service attended the two meetings conducted by this office.

### SHIPMENT OF MEXICAN CITRUS FRUITS IN BOND THROUGH THE UNITED STATES

Requests of various railroad companies for inclusion among the routings authorized in Circular HB-147, revised, and an extension of the period during which Mexican citrus fruits may be shipped by ocean route to New York for rail transportation to Canada, rendered a further revision of this circular necessary.

This revision has been published as Circular PQCA-305, under date of February 27, 1931. As revised, the circular provides for the direct routing of Sonoran citrus fruits from Nogales or Naco, Ariz., by any available railroad company to the principal junction points indicated in column 3 of the table, thence by any available railroad to Denver, Kansas City, or St. Louis. The final routing to Canada from these three distribution points may be made over any direct route to the desired point in Canada, provided that no route from Denver to Canada shall enter the State of California. This is illustrated by a map included in the circular.

The period during which Mexican citrus fruits from any part of that Republic may be shipped by ocean route to New York for rail transportation to Canada has been extended and now is from November 15 to March 15. Additional copies of this circular will be furnished on request.

## SUMMARIES OF PLANT QUARANTINES OF FOREIGN COUNTRIES

Circular PQCA-304, Plant Quarantine Restrictions of Denmark, was published February 24, 1931. An additional circular of this series, furnishing a summary of the plant quarantine restrictions of New Zealand, will shortly be published.

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## DOMESTIC PLANT QUARANTINES

#### TRANSIT INSPECTION

Transit inspection has recently been instituted at Washington, D. C., Mr. H. J. Conkle, formerly stationed at Memphis and Atlanta, having been assigned to this post. Terminal inspection of plants and plant products coming into the District of Columbia is conducted by Mr. C. E. Prince, under the direction of the D. C. inspection service of the Administration, and local inspectors have in the past reported a number of violations of domestic plant quarantines which came to their attention. Mr. Conkle is working in close cooperation with Mr. Prince. The latter's duties are directed primarily toward shipments consigned to the District of Columbia, while the transit inspector is primarily responsible for inspecting shipments of quarantined articles en route through Washington, D. C., and Potomac Yards to other destinations. The inspection tours are arranged in such a way as to prevent any overlapping of the work.

Activities in transit inspection have been resumed at Kansas City, Omaha, Denver, and Ogden, and the forces at Chicago, New York, and Spokane have been strengthened by the assignment of additional men, in anticipation of the increased shipping of nursery stock at this season of the year.

New York inspectors report a considerable increase in nursery stock movement through that city during the first ten days of March, and the interception of a number of violations which would have moved into southern and western States.

Transit inspection at Indianapolis, Ind., was discontinued on February 26. Mr. Thoburn L. Thompson, who was carrying on the work at that station, was transferred to Kansas City, Mo., where on March 1, transit inspection was resumed in mail, express, and freight. Mr. Thompson will continue at Kansas City until the close of the spring nursery stock shipping season.

Transit inspection at St. Paul and Minneapolis has the active cooperation of the Minnesota State nursery inspection division. Office space
and office equipment are provided. Telephone messages from inspection points
are taken at the office so that the inspector may call in for them from either city. This service enables the inspector to visit the freight stations
reporting shipments of restricted articles in transit, thus greatly increasing the efficiency and range of inspection. Such shipments are promptly reported by telephone by the officials of 18 freight stations in St. Paul and
Minneapolis. During the peak of the shipping season a State deputy inspector,
authorized by the Plant Quarantine and Control Administration to aid in the
enforcement of Federal plant quarantines, holds out for the Federal inspector
any shipment constituting a Federal violation of plant quarantines. In return,
the Federal inspector reports to the State nursery inspection office any shipment into or from Minnesota that does not comply with Minnesota regulations.

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This cooperation is being carried on without any cost to the Federal Government. The active personal interest in the transit inspection problems by Mr. J. D. Winter, in charge of nursery inspection in Minnesota, has been of assistance in working out the service to the mutual interest of all parties concerned. Frequent discussions of the problems relating to transit inspection are of great help in improving this service.

Two violations of the European corn borer quarantine were intercepted at Minneapolis and St. Paul, on January 26 and March 2, respectively. A portion of a cornstalk was found in the straw used for packing in the first violation. Two ears of corn in a shipment of five crates of rabbits were found in the second violation. Both shipments originated in Indiana and were intercepted in express. To the inspector's knowledge, this constitutes the first violation of the European corn borer quarantine to be intercepted at St. Paul.

Courtesy Certificate Tags. -- Of special interest to transit inspection workers is the Courtesy Certificate Tag devised by the Southern Plant Board for use in States represented by that Board. The tag is issued only for non-commercial shipments of nursery stock and constitutes both an inspection certificate of the State of origin and a permit of the State of destination. It is valid for only 15 days. This method of certification will doubtless not only relieve the State officials of a great deal of detailed work but seems to be an important step in recognition of the needs of the public by providing a convenient means whereby persons desiring to make occasional shipments may do so in full compliance with the requirements of the States concerned, and without extensive advance correspondence.

Central Plant Board Meeting. -- The Central Plant Board had a session on March 5 and 6 at Urbana, Ill., at which various features of the work of the Plant Quarantine and Control Administration were discussed, including narcissus pests, the importation of fruit and rose stocks, and the barberry quarantine. In addition the Board requested the Federal Department of Agriculture to take over the alfalfa weevil quarantine program. The Administration was represented at the meeting by Dr. S. B. Fracker.

## NARCISSUS BULB QUARANTINE

A press notice dated March 3 announces the decision of the Chief of the Administration that there will be no relaxation in the regulations governing the admission of narcissus bulbs into the United States from abroad, nor in those relating to interstate movement. It is anticipated that the domestic quarantine regulation will be more rigidly enforced as a result of the facts brought out at the public conference on the subject. The information submitted by the Department and State specialists, bulb growers, importers, and others, indicates gratifying progress in cleaning up pests in bulb plantings in this country. The evidence was conclusive that the domestic quarantine contributes to this condition and a further check on the clean-up conditions in this country will be made. Information gathered during

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the past five years corroborates earlier conclusions that in the carrying of infestation the narcissus bulb from foreign countries is the chief offender among bulbs.

"A Survey of the United States Bulb Industry" is being issued as a mimeographed circular by Mr. Robert G. Hill, of the Bureau of Agricultural Economics. The Domestic Quarantine Office of the Administration will have a few copies for distribution to those interested.

## PHONY PEACH DISEASE QUARANTINE INSPECTION

Nursery stock movement through Atlanta and Birmingham has increased considerably during the past thirty days, and by the middle of March had probably reached the maximum for the spring shipping season. One apparent violation each of the narcissus bulb and Japanese beetle quarantines has been intercepted at Memphis, and a violation of the phony peach disease quarantine was intercepted at Atlanta. The February interceptions also included two intrastate shipments of peach trees from the phony peach disease regulated areas in Georgia and Alabama, which were reported to the authorities of these States.

During the month of February, 371 shipments of peach and other restricted nursery stock destined for delivery in 14 different States were certified by Administration inspectors for nurserymen at Concord, Ga.

#### DATE SCALE

Work in the Coachella Valley during the month of February included the inspection of 10,493 date palms in 11 infested plantings, and 10,901 palms on 71 properties not known to be infested. The only finding of infestation involved 4 palms in one of the infested plantings which has no commercial value. These palms were dug out and destroyed. At the request of the owner of an infested property, 88 additional palms were dug out and destroyed. Most of these were tall seedlings and none of them was found to be infested.

While inspection was interrupted by rain for about 3 days during the month, considerable benefit was derived from the rain, as it washed from the date palm leaves the accumulation of dust and, in gardens near grapefruit plantings, the soot resulting from orchard heating. This accumulation had, naturally, increased the difficulty of inspection.

A section by section check-up of the infested area was started during the month, with a view to locating any palms which might have been missed by the scouting inspection. Work was completed in 7 sections without finding any unlisted palms.

In the Imperial, Salt River, and Yuma Valleys, respectively, 2,588, 4,047, and 8,679 palms were inspected and no infestation was found.

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Work outside of the regulated districts included the inspection of 205 palms in the vicinity of Redlands, Calif., with negative results, and the location of approximately 1,000 date palms as a result of a survey of the Blythe Irrigation District. No inspections were made in this district.

#### EUROPEAN CORN BORER AND JAPANESE BEETLE

The clean-up of isolated infestations of the European corn borer on Manchester Island, Lewis County, and in Bradford Township, Bracken County, Ky., is very nearly completed. Weather conditions have been exceptionally good for carrying on the work. Upon completion of the clean-up in Kentucky, the equipment used will be moved to three isolated infestations in Ohio. In this State a considerable amount of the work has already been performed by the farmers, which will reduce the amount of clean-up that the Plant Quarantine and Control Administration will have to complete.

The quarantine stations on bridges and at ferries crossing the Ohio River are still in operation to prevent the movement of corn into Kentucky from infested areas in Ohio and Indiana. The much lower price of corn will doubtless make it unprofitable to truck this commodity long distances, and owing to this fact it may not be necessary to operate these stations for a much longer period.

Due to the consolidation of the European Corn Borer and Japanese Beetle projects, it has been possible to combine several of the field offices, effecting savings to the Department in both rentals and salaries. A lease has been requested for a new field office at Rutherford, N. J., effective June 1. The present offices now occupied by these two projects, located at Midland Park and Rutherford, N. J., will be released at the end of the present fiscal year, and Mr. H. V. Hotchkin will be in charge of both projects from this office.

In the New York City area arrangements have been made for the discontinuance of the office now occupied by the European corn borer division in the U. S. Shipping Board Building, and this work will move to the U. S. Warehouse at 641 Washington Street and occupy space with the Japanese beetle office in Rooms 839 and 840. These two projects for this area have been combined, and Mr. Leland Wolfe will be the administrative head of this work for New York City and Long Island for both the Japanese beetle and European corn berer.

As a result of an agreement of long standing between the Plant Quarantine and Control Administration and several State quarantine officials, made on September 3, 1924, reports of all shipments of quarantined articles certified for shipment from the Japanese beetle regulated area have been mailed to the State authorities immediately after the certification of the products. Ten States originally requested to be supplied with these reports. This number was later reduced to nine. The preparation of these reports has

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entailed a large amount of burdensome routine clerical work. A recent survey made by the Administration disclosed the fact that few of the States to whom the reports were being mailed put them to any practical use. Accordingly, all but three States have now withdrawn their request for these reports. This change was effective on March 2. The decrease in report work will considerably reduce the clerical work connected with the certification of products under the Japanese beetle quarantine regulations.

Copies of the one- and two-generation corn borer warning posters have been received and are being distributed throughout the area affected.

Conferences have been held with State officials in several of those States affected by both European corn borer and Japanese beetle quarantines in order to unify plans and to outline policies affected by the consolidation of the two projects. A most cooperative response was evident from those States.

A program of analysis of soil from plots in nursery establishments that have previously been treated with arsenate of lead in accordance with the Japanese beetle quarantine regulations is now under way. Since the technique of the analysis is at present somewhat in the experimental stage, the laboratory work is being carried on in cooperation with the Japanese beetle research laboratory of the Bureau of Entomology at Moorestown, N. J. The soil analysis program contemplates the collection of 50 representative soil samples from each treated nursery plot, bed, or heeling-in ground, and the analysis of these 50 samples as a composite sample for the determination of the lead arsenate content of the plot as a whole. The disinfection requirements supplemental to the Japanese beetle quarantine regulations require a dosage of 1,500 pounds of lead arsenate powder per acre of ground, or approximately 35 pounds to each 1,000 square feet. Experimentation has disclosed this quantity of arsenate of lead as necessary to establish a toxic condition in the soil that is lethal to Japanese beetle larvae. application must be completed before August 1, if it is proposed to lift plants from the treated ground during the autumn of the same year. The analysis will determine the present lead arsenate content and the additional quantity that must be added to raise the content to the prescribed dosage of 1,500 pounds per acre. Soil samples will be gathered in 37 nursery establishments, and approximately 45,000 borings will be required to obtain representative samples. Seven temporary chemists and 24 field inspectors will be assigned to this work. About three months will be required for the completion of the program.

Mr. George S. Wheeler, 41 years of age, an inspector connected with the Shelton, Conn., Japanese beetle quarantine office, and a resident of that city, was fatally injured in an automobile accident near Waterbury, Conn., on the morning of February 4. Mr. Wheeler and Agent H. C. Helliwell were en route to a nursery establishment at Thompsonville in connection with their official duties, when the truck driven by Mr. Wheeler skidded on an icy pavement and crashed into a tree. Mr. Helliwell escaped serious injury.

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The Japanese beetle suboffice previously located at the corner of Throop Avenue and Suydam Street, New Brunswick, N. J., was closed on February 1. The inspectors formerly stationed at that point now operate from the New Jersey district office at White Horse (Trenton).

Mr. H. N. Bartley, Administrative Officer, who is in charge of the central area for quarantine and control activities on account of the European corn borer, with headquarters at South Norwalk, Conn., has been placed in immediate charge of the Japanese beetle quarantine and control work in the New York City area, Long Island, Connecticut, and western Massachusetts. This consolidation combines quarantine activities of both projects in the territory in which the two quarantined areas overlap. This change, which became effective on March 9, affects the supervision of the work of the Japanese beetle district offices in New York City and Shelton, Conn. The district quarantine office of the Japanese beetle, which was located with the State Department of Agriculture in Providence, R. I., was moved on March 9 to 12 South Market Street, Boston, where it is to be combined with the main office for the administration of the European corn borer quarantine activities in the eastern area. Mr. R. S. Clifton, who has been in charge of the quarantine work in eastern Massachusetts, Rhode Island, Maine, New Hampshire, and Vermont, will also be the administrative head of Japanese beetle activities in this same area. Assistant Plant Quarantine and Control Administration Inspector T. C. Cronin will act as Mr. Clifton's assistant for the Japanese beetle quarantine activities in the abovementioned area.

#### MEDITERRANEAN FRUIT FLY

Transfers of personnel, to provide for intensive inspection at an early date of areas in which infestations were found during 1929 and 1930, represented a major development of the month in field inspection. Effective Monday, February 16, and later, these transfers afforded additional man power for the territory in the central part of the State including and surrounding localities in which the heavier infestations had been located. Men utilized in this connection were taken mostly from districts outside the old eradication area, in which, it is believed, there is a minimum of probability that incipient infestations remain undiscovered. All inspectors were temporarily removed from one district in the northern part of the State, where climatic conditions were such that there will be very little material for examination during the next several months. Consolidation of districts along the extreme southern boundaries of Florida is anticipated at an early date in at least one instance. Grove conditions were reported as increasingly unsatisfactory in most districts, sanitation measures apparently having been continuously applied by only a limited number of growers. Disposal of culls and refuse from packing houses and canneries also seems to be for the most part with little regard for danger from fruit fly infestation.

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Marketing conditions in relation to citrus fruits improved considerably this month. Shipments continued heavy, most of the output of early varieties and much of that of midseason fruit having been moved by the end of Webruary. Materially higher prices prevailed on oranges during the latter half of the month, and for the first time since very early in the season cash buyers were making offers for fruit "on the trees." Returns for grapefruit were little if any better than last month, though at intervals the market therefor showed a firmer tone. A number of grapefruit canneries closed down as a result of the demoralization caused by price cutting. Loan of \$1,500,000 additional to the approximately \$3,000,000 already authorized will be sought from the Federal Farm Board by the Florida Citrus Exchange, a large part of the proceeds to be used in acquiring canneries and expended in an offort to stabilize the industry. Meanwhile, the making of frozen orange juice, on an experimental basis, was gotten under way by the National Dairy Products Corporation, and it was announced that the Borden Farm Products also will enter the Florida field in the manufacture of this product.

Much extra work was placed on the Orlando offices of the Administration in consequence of the activities of the unofficial Florida Growers Reimbursement Committee, of which Mr. Howey is chairman, many fruit and vegetable growers having called, seeking access to records of crop destruction for use in preparing their affidavits in respect to alleged damages sustained as a result of eradication measures. During the first two weeks of February, from a dozen to a score of visitors daily had to be waited on in this connection. Claims compiled by the so-called Howey Committee were assembled and taken to Washington just after the middle of the month by Prof. H. L. Frost, Massachusetts and Florida entomologist, who was active in relation to their preparation. Figures on the total for the State were not given out by the Committee, but it is known that the aggregate of the claims presented was disappointingly low to some of the members. In Hillsboro and Pinellas Counties claims for \$553,144 were collected, according to local newspapers, this territory having approximately one-tenth of the fruit and vegetable production of Florida.

Congressional activities looking to ultimate compensation of growers for crops destroyed during the eradication campaign and for other losses incurred were the source of interest to many Florida people throughout February. The Senate passed, without a record vote, a bill introduced by Senator Trammell of this State, providing for a survey to determine the probable amount of damages, and in which provision was made for the inquiry to be conducted by a board of five members, two representing the Department, two to be from Florida, and one "at-large." In the House, the Committee on Agriculture reported out a bill by Representative Owen, of the Fourth Florida District, which simply authorized the Department to make the survey. Later, Mrs. Owen was permitted to call up the Trammell bill, but the unanimous consent required for the vote could not be had, Representative Snow of Maine, objecting. Chairman Haugen, of the House Agricultural Committee, then sought to have the Owen bill voted on, but Mr. Snow again interposed objections.

Claims for damages which involve possible negligence on the part of employees of the Department, making them eligible for consideration under the Small Claims Act, engaged the attention of several employees for a considerable portion of the month. In only one case, involving loss of two dogs valued at \$25, were the facts found to justify recommendation for allowance.

With the end of February, direction of field inspection by Mr. Kimball was terminated, his transfer to the Pink Bollworm and Thurberia Weevil Project having been directed by Mr. Strong. En route to San Antonio, Mr. Kimball was called to Washington for conference, his departure from Orlando having been delayed for some days on account of illness. Selection of Mr. Gaddis to succeed Mr. Kimball in the Mediterranean Fruit Fly Project was announced by Mr. Hoidale. Also effective March 1, Mr. Fagan, of the fiscal division, was transferred to the Bureau of Entomology for service at the Tallulah, La., laboratory.

Agitation for more stringent laws restricting early fall shipments of immature citrus fruits culminated in a number of meetings composed of leading growers and shippers. In the endeavor to formulate recommendations for presentation to the biennial session of the State Legislature convening on April 7, many differences of opinion were developed and up to the end of the month agreement had not been reached by the factors most interested.

A few additional refusals to permit inspection were reported during the month, most of which were later overcome by efficient work on the part of district leaders and field men. In one case, instructions were issued by the State Plant Board for its attorney to take legal steps. At the end of the month, records of the field inspection division indicated that four refusals remain to be handled.

Material available for examination continued comparatively scarce in most sections, although some districts reported increases in larvae observed. Specimens examined by the identification division in February included Mediterranean Fruit Fly Project, negative file, 56,146; Mexican Fruit Worm Project, negative file, 8,019; Anastrepha file, 485; submitted by the Administration, 85; total, 64,735.

Following receipt of advices from Mr. Strong that appropriations by Congress for the next fiscal year included no money for Mediterranean fruit fly work except in case of emergency, the Orange County Board of Commissioners was notified, in accordance with the terms of informal lease agreement, that the Administration will vacate the Old Court House in Orlando not later than June 30.

Weather conditions in the State were notably better for fruit fly inspection purposes over a period of several days the early part of the month, though subsequently they were not so good. As a whole, February was abnormal as regards low temperatures and heavy rainfall, repeating the

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#### MEXICAN FRUIT WORM

The sixth and last round of grove inspection for the present season was completed during the latter part of the month of February. This periodic inspection of bearing groves is for the purpose of locating any infestation of the fruit worm that might exist and to enforce the sanitary requirements in the groves. Following the completion of this round of inspection the remainder of the month was utilized by the inspectors in calling upon the owners of premises from which the fruit had not been removed, reminding them of the beginning of the host-free period on March 1. In a number of cases tree-to-tree inspections were made of groves from which the fruit had been removed. Excellent response has been had from the growers in preparing for the host-free period.

The number of single-box permit stamps issued by the district offices practically doubled that of the preceding month, due to the lastminute shipments of gift boxes and an unusual activity on the part of truckers. A number of the truckers were hauling fruit to points up-state and placing it in storage to be retailed gradually during the next month or six weeks.

A system of visits whereby each District Inspector spent a day observing the work in each of the other districts, inaugurated in January, was completed in the early part of February. The purpose of these visits was to secure more nearly uniform enforcement of the various phases of the regulations in the different districts. Many excellent suggestions for the improvement of the work resulted from these visits.

Inspection of locally-grown fruit and fruit shipped in from other sections of Mexico was carried on in Matamoros throughout the month. Inspection of locally-grown fruit gave negative results. Mangoes brought to Matamoros from the State of Michoacan, in the southern part of Mexico, were rather heavily infested with fruit worm larvae; some 485 specimens were collected, most of which were from mangoes.

Determinations were received during the month on 10,078 specimens submitted during this and the preceding month. None of the specimens collected from locally-grown fruit on either side of the river were determined as Anastrepha ludens.

Messrs. W. G. Campbell, Lee A. Strong, and P. A. Hoidale spent the 17th, 18th, and 19th looking over the Mexican Fruit Worm Project.

The citrus trees started blooming early in February and by the end of the month the orange trees were in full bloom. Many of the grapefruit blossoms had opened and indications point, according to some of the older growers, to the greatest bloom the Valley has ever had. Even the one, two,

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and three-year-old trees are setting a large bloom.

A close watch was kept for alternate host fruit trees and wherever found every effort was made to have them removed. Some 48 such trees were dug out on 23 premises. Two of these premises contained old trees which we had been unable to get since the beginning of the work.

#### PINK BOLLWORM

The regulatory phases of the work for the 1930 crop season are rapidly drawing to a close. There were 179 gins in the regulated area at the beginning of the season, all of which have closed with the exception of about 10. The gins remaining open have only a small amount of cotton remaining to be ginned, which will probably be finished by the middle of March. end of February, 346,732 bales of cotton had been ginned. The seed from this cotton was sterilized at an average efficiency of 97 per cent per bale. The greater part of the seed produced is shipped to oil mills for crushing. At this time, 141,808 tons of seed have been received at the 25 oil mills in the regulated area, 90 per cent of which has already been milled. It will be recalled that there were 35 gins and 3 oil mills in that part of the Western Extension of Texas which was released from the quarantined area on November 17, 1930. The above figures include the operations at these plants up to the time of their release. A certain amount of the cotton produced is held to fill late shipping orders; consequently, the fumigation plants operate intermittently throughout the summer months. At this time 70 per cent of the cotton ginned this season has already been fumigated.

There was a slight decrease in the number of cars inspected at our road stations during February as compared to January, and a considerable decrease in the number of confiscations made. A large part of the confiscations is taken from tourists, who carry various parts of the cotton plant as souvenirs. Much of the land which was in cotton last season has now been plowed, which probably accounts in part for the decrease in confiscations. Another reason for this decrease is that the movement of cotton pickers has practically ceased. They usually carry their own pick sacks with them, and our records show that there is nearly always a small amount of seed cotton left in these sacks, once they have been used. Out of 12 interceptions of material containing specimens of the pink bollworm that have been made this season, 5 were pick sacks containing seed cotton. Consequently, this class of traffic is considered the most dangerous from the standpoint of spreading an infestation.

Two confiscations of material containing specimens of the pink boll-worm were made during February, both by Inspector G. E. Orr at the Valentine Road Station. On February 9, one-fourth pound of seed cotton and cottonseed was taken from cracks in the bed of a truck, in which were found three dead larvae. On February 17, one-eighth pound of seed cotton was found in a pick sack which contained two larvae-one living and one dead. This latter interception is of interest in that the owner denied having any cotton sacks before the inspection was made.

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During February, 1,064 samples, of 100 bolls each, were inspected at the laboratory with negative results. These samples had been collected in counties in Alabama, Georgia, Mississippi, and Texas. As the laboratory inspection continues, the inspectors become more familiar with the work, and make improvements in the various processes used, which increases the amount of material that can be inspected. The number of samples that can be inspected depends, of course, upon the number of inspectors engaged in the work. At this time the rate is between five and six samples daily per inspector.

The annual meeting of the Texas Entomological Society was held in San Antonio on March 9. Some 40 members were present, including a number from this project. At the conclusion of the afternoon session a visit was made to our laboratory and mechanical shops. The laboratory method of inspection and operation of gin trash machines was explained and demonstrated. Many favorable comments were made on these two methods of inspection, which have been developed this season.

#### PREVENTING SPREAD OF MOTHS

In connection with Christmas tree and greenery inspection work the following notes may be of interest.

During the season just past, 1,410,454 Christmas trees were actually inspected. These were shipped to 30 States, not including the New England States. Over 1,000,000 of them were sent to the States of Illinois, New Jersey, New York, Ohio, and Pennsylvania. Christmas greenery, such as wreaths, sprays, decorative baskets, set-pieces, roping, etc., are known as mixed greens. When possible the materials of which these articles are constructed are inspected before they are made up into the finished product. At the plant of one of the larger concerns which prepare such articles, the following amounts of materials were inspected: 20 tons of branches of red berries (Ilex verticillata), 114 tons of balsam boughs, 2 tons of white pine, 5 tons of red cedar berries, and 1 ton of dwarf juniper.

During February there were only a few shipments of evergreen products inspected and certified. With one exception these were all small shipments of parts of evergreen trees or laurel branches to be used for decorative purposes. There was one shipment of over 100 cut evergreen trees similar to those used for Christmas trees.

As is usual during February, shipments of forest products inspected and certified consisted principally of empty telephone cable reels which were being returned to cable manufacturers, hardwood logs, lumber, and pulpwood. A rather unusual inspection was made during this month of an old house located within the quarantined area which was carefully taken apart and shipped to be recrected by the purchaser. All of the materials, including the bricks of the chimney, were shipped and had to be inspected.

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There were signs of renewed activity in the shipments of nursery stock from Connecticut. Numerous nurseries in that State store large quantities of stock over the winter in sheds. This stock is dug, sorted, graded, and a large part of it inspected during the fall. Carloads of this material are shipped to some extent throughout the winter, but toward the last of February the shipments begin in earnest.

The inspection of stone and quarry products was confined mainly to curbing, granite, marble, and paving blocks, although many other types of such materials were shipped and inspected. In addition to these products, all wooden crating used to protect finished pieces of granite and marble, and the timbers and blocks used to secure shipments of stone on freight cars, must be inspected before shipments are certified.

A new gipsy moth poster (14" x 22"), illustrating the life history stages of this insect, has recently been issued. It also shows the locations of the infested area and the Barrier Zone. It is within this Zone that the Federal Government and New York State are cooperating in work to prevent further spread of this insect. The Gipsy Moth Office at Melrose Highlands will be pleased to furnish a small supply of these posters to any one who requests them.

Scouting work within the Barrier Zone was carried on in 11 towns in Connecticut, 7 in Massachusetts, and 2 in Vermont. The Barrier Zone is an area of over 8,000 square miles, approximately 250 miles long, ranging in width from 25 to 30 miles, reaching from Long Island Sound east of the Hudson River (excluding Westchester County, N. Y.) to the Canadian border. It comprises the eastern part of New York, and western Connecticut, Massachusetts, and Vermont. The scouting is done by a crew of men consisting of eight scouts and a foreman. For ordinary woodland scouting these men are deployed in a line. The men work about 40 feet apart. As they go through a strip of woodland, each one makes a distinctive small mark on the trees examined. In woodland this is done with a specially prepared bark knife, but chalk is used on ornamentals or trees that should not be cut or scratched. When scouting around areas known to have been previously infested, it is necessary to bring the men much closer together so that every tree may be given a thorough examination.

Some infestations have already been found in some of the abovementioned towns. The work in these towns has not been completed and more infestations are apt to be located. So far, more infestations have been discovered in the townships of New Marlboro, Sheffield, and Sandisfield, Mass., than elsewhere in the Zone. Four of the ll towns in Connecticut have been completed and only one small infestation was found in one of them.

The work in the Hudson River Valley in the Barrier Zone is done by the State of New York, and a report from the office of the New York State Conservation Department indicates that there was scouting done during the

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month in five townships in the Hudson River Valley. Apparently all work planned for in seven other townships has been completed. As result of the scouting in New York this fiscal year, three towns have been found infested.

Late in 1929, a gipsy moth infestation was discovered in North Roslyn, Long Island, N. Y. Steps were immediately taken to determine the limits of this infestation with a view of exterminating it. The early work was done by the Federal Government, but later it was turned over to the New York State Conservation Department. This State has continued to conduct this campaign. North Roslyn is situated in Nassau County, and approximately three-quarters of the county was examined last year. This includes all the area within four miles of the center of the colony and much territory farther removed. As result of this work, approximately 5,000 egg clusters were found and destroyed, and large spraying operations were conducted during the summer. Up to the present time practically all of the area within three miles of the center of the colony and a large part of the area in Nassau County that was not covered last year, have been examined. This fiscal year 208 egg clusters have been found and treated and all of these were within three miles of North Roslyn.

The gipsy moth work conducted in New Jersey is done cooperatively by Federal and State forces. During the month 12 crews were engaged in intensive scouting work in this State in the following townships: Hillsboro, Bridgewater, and Piscataway. The work in Hillsboro might be classified as the work done in Dukes Park and the work done outside of this estate. All of the work in Dukes Park was completed during the second week of February and no gipsy moth infestation was found. Dukes Park is the property where the original gipsy moth infestation consisting of over 3,000,000 egg clusters was located in 1920.

Scouting work in New Jersey progressed faster than was at first anticipated due largely to continued cold weather which kept the swamps and lowlands frozen over so that these difficult sections could be examined.

No gipsy moth infestations have been discovered in New Jersey since the summer of 1929.

There were a total of 12 violations reported during the month as follows: 8 of Quarantine 45, 1 of Quarantine 53, and 3 of Quarantine 63. All of the reported violations were of a minor nature and were due either to ignorance of the quarantines or misunderstanding of the requirements on the part of shippers or transportation agents. No prosecutions were instituted in any of these cases as no evidence was secured that indicated that the violations were intentional. Information concerning quarantine requirements was given by investigating inspectors in all cases where the parties could be located.



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