N E W S L E T T E R

PLANT QUARANTINE AND CONTROL ADMINISTRATION

UNITED STATES DEPARTMENT OF AGRICULTURE

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UNITED STATES DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON

January 15, 1931.

TO ALL MEMBERS OF THE DEPARTMENT OF AGRICULTURE:

No group of people can appreciate more than you what hardships hundreds of thousands of our farmers in the drought-stricken states face this winter. The situation is so acute that the American Red Cross is supplementing the work of local agencies by providing a total of more than $15,000,000 to buy food and clothing. Ten million dollars of this amount must be raised within the next few days.

You have in the past contributed generously to local charity organizations, to the Department's own welfare fund, and to the Red Cross to aid sufferers in disasters at home and abroad. You have never previously had the opportunity to contribute to a cause so near to your own work as you have today. I have supreme faith in your generosity and in your desire to help. I urge all of you to contribute to the Red Cross call to the full extent of your ability.

ARTHUR M. HYDE,
Secretary.

ADMINISTRATIVE

GENERAL DIRECTIONS FOR PREPARING NOTES

Persons responsible for the preparation and submission of material for the News Letter are requested to comply with the suggestions enumerated below. Such compliance will materially simplify the work of the editorial office.

(1) All copy should be double spaced, to facilitate editing and the cutting of the stencil.

(2) Use two commas in a triple series. Example: Sand, soil, and earth must be certified.

(3) Use figures for all enumerations of weight, measure, distance, clock time, money, percentage, degrees, proportion, and age. Spell all isolated amounts under 10, and use figures in groups of enumerations when any one enumeration is 10 or more.

(4) Percentage should be expressed as 15 per cent, 21.2 per cent, 0.75 per cent, etc.; not as 15%, etc.

(5) Use degree marks to indicate temperatures, as 72° F., 2° C., etc.

(6) Abbreviate the State after city, town, village, county, island, mountain, river, or any other geographic term when the name is given. The following are the approved abbreviations:

Ala. for Alabama.	Mich. for Michigan.
Ariz. for Arizona.	Minn. for Minnesota.
Ark. for Arkansas.	Miss. for Mississippi.
Calif. for California.	Mo. for Missouri.
Colo. for Colorado.	Mont. for Montana.
Conn. for Connecticut.	Nebr. for Nebraska.
Del. for Delaware.	Nev. for Nevada.
D.C. for District of Columbia.	N.H. for New Hampshire.
Fla. for Florida.	N.J. for New Jersey.
Ga. for Georgia.	N.Mex. for New Mexico.
Ill. for Illinois.	N.Y. for New York.
Ind. for Indiana.	N.C. for North Carolina.
Kans. for Kansas.	N.Dak. for North Dakota
Ky. for Kentucky.	Okla. for Oklahoma.
La. for Louisiana.	Oreg. for Oregon.
Me. for Maine.	Pa. for Pennsylvania.
Md. for Maryland.	P.I. for Philippine Islands.
Mass. for Massachusetts.	P.R. for Porto Rico.

R.I. for Rhode Island.
S.C. for South Carolina.
S.Dak. for South Dakota.
Tenn. for Tennessee.
Tex. for Texas.
Vt. for Vermont.
Va. for Virginia.
Wash. for Washington.
W.Va. for West Virginia.
Wis. for Wisconsin.
Wyo. for Wyoming.

Alaska, Canal Zone, Guam, Hawaii, Idaho, Iowa, Ohio, Samoa, Utah, and Virgin Islands should not be abbreviated.

In submitting manuscripts for the annual report or other printed publications, in addition to the foregoing directions, paragraphs should end on a page and not run over to the next page, and tables should be on separate sheets.

ATTENDANCE AT THE CLEVELAND MEETINGS A. A. A. S.

The Administration was represented at the annual scientific conferences held under the auspices of the American Association for the Advancement of Science at Cleveland, Ohio, December 29, 1930, to January 3, 1931, by Messrs. Lee A. Strong, S. A. Rohwer, E. R. Sasscer, W. A. McCubbin, A.F. Burgess, L. H. Worthley, Erle G. Brewer, and Max Kisliuk, Jr. The reports of recent activities by the Administration in these cases were received with interest by the American Association of Economic Entomology. Mr. Strong reviewed the work done during the past year. Mr. Sasscer discussed export certification. Mr. Burgess read a paper on the eradication of isolated gipsy moth outbreaks, and Mr. Brewer read a paper bearing on the European corn borer situation in the United States at the close of 1930. Mr. Burgess, the secretary of this Association, was reelected. Mr. Sasscer acted for Doctor Fracker as secretary of the horticultural section. Doctor Fracker was reelected to that position.

CONVICTIONS FOR VIOLATIONS

While Quarantine No. 68, on account of the Mediterranean fruit fly, was lifted effective November 15, 1930, there are still pending in the court a number of alleged violations of this quarantine. The following cases were recently terminated:

Bourk-Donaldson-Taylor, Inc., of Denver, Colo., pleaded guilty to the interstate shipment of 35 boxes of Florida-grown grapefruit in violation of the regulations and was fined $50.

The Atchison, Topeka, and Santa Fe Railroad Company, the common carrier which transported the above grapefruit, pleaded guilty and was also fined $50.

Sam Feldman, of Steubenville, Ohio, pleaded guilty to the interstate transportation of 2 boxes of Florida-grown tangerines and 1 box of Florida-grown peppers in violation of the regulations and was fined $10 and costs.

Tony Constantino, of Richmond, Va., pleaded guilty to the interstate transportation of one crate of Florida-grown tangerines in violation of the regulations and was fined $25.

Meador-Poulson-Friddy, Inc., of Richmond, Va., pleaded nolo contendere to the interstate shipment of 16 crates of Florida-grown peppers in violation of the regulations and was fined $25.

The Railway Express Agency, Inc., pleaded nolo contendere to the interstate transportation of 15 crates of Florida-grown peppers in violation of the regulations and was fined $25.

Crenshaw-Currie & Co., Inc., of Richmond, Va., pleaded nolo contendere to the interstate shipment of 10 crates of Florida-grown peppers in violation of the regulations, and to defacing and destroying permit certificates, and was fined $25.

APPROPRIATIONS

Since the issuance of the January News Letter, the subcommittee of the Senate Committee on Appropriations held hearings to consider the Agricultural Appropriation Bill for 1932, and reported the same to the Senate. The Senate subcommittee restored the $210,000 which the subcommittee of the House Committee on Appropriations had omitted from the item "Control and Prevention of Spread of the European Corn Borer, " and the bill was passed by the Senate January 23.

DIRECTORY OF FIELD ACTIVITIES

The Directory of Field Activities of the Administration, issued April 1, 1929, is now in process of revision. It is hoped that copies of the revised edition will be available in about two months.

TECHNOLOGICAL

Mr. A. G. Galloway arrived in Brownsville, Tex., January 11, and is proceeding from that point to Laredo and Eagle Pass to inspect car fumigation plants. He will then go to El Paso to make tests on car fumigation in cooperation with the Division of Foreign Plant Quarantines.

The work on testing methods of sterilizing fruits, vegetables, and nuts in Florida is being continued by Mr. J. M. Luckie.

Mr. D. B. Mackie, Senior Entomologist of the California Department of Agriculture, and connected with this Administration as an agent, reports that he has made some tests on the sterilization of apples and pears for the mealybug. He reports good results in the destruction of this insect in pears at about the ordinary cold storage temperatures for this fruit.

FOREIGN PLANT QUARANTINES

SOME RECENT INTERCEPTIONS ON IMPORTED PLANTS AND PLANT PRODUCTS

Entomological

The Mediterranean fruit fly (Ceratitis capitata) was taken at Boston in oranges in baggage from the Azores. This represents the second interception of this fruit fly in orange from the Azores. Following are the previous interception records of this insect from the Azores: Once in guava, orange, and peach, twice in pear, and three times in apple and loquat.

The papaya fruit fly (Toxotrypana curvicauda) was intercepted at Miami, Fla., in papaya from the Bahama Islands. The only known host of this tropical fruit fly is the papaya (Carica papaya). This fruit fly, which occurs in southern Florida, is widely distributed in tropical America.

The larvae of Exosoma lusitanica (Chrysomelidae) were found in cipollino bulbs (Muscari comosum) in cargo from Morocco. Dr. A. G. Boving, of the Bureau of Entomology, makes the following comment in regard to this insect: "The imagines, determined by Mr. H. S. Barber, prove that the larvae belong to the species Exosoma lusitanica L., a genus and species hitherto unknown in the immature stages."

Aleurothrixus floccosus (whitefly) was found at Mercedes (Thayer International Bridge), Tex., on a honeysuckle leaf from Mexico. This aleyrodid has been previously intercepted on citrus from Brazil and Porto Rico, on orange leaf from Brazil, and on an unknown leaf from Mexico. It is reported as occurring in Florida, Mexico, British Guiana, Brazil, Argentina, the Canal Zone, Chile, and Paraguay, and is common in the West Indies.

Chrysomphalus scutiformis, a scale insect not reported from the United States, was intercepted at New Orleans on banana in cargo from Honduras. This coccid has been taken on avocado, banana, orange, sour lime, sweet lime, and tangerine from the Canal Zone, Costa Rica, Guatemala, Mexico, Panama, and Salvador. This is the first interception record we have of this insect from Honduras.

Orthezia calaphracta (Coccidae) was found at Seattle, Wash., in soil in baggage from Scotland. This represents the third interception of this scale insect by inspectors of the Plant Quarantine and Control Administration, it having been taken on Iris setosa from Newfoundland, and in packing about unknown plants from Norway. It is reported in literature as also occurring in Greenland, Lapland, Ireland, and Northern England on grass and Saxifraga aizoon.

The bean pod borer (Maruca testulalis) was taken several times at New York in Lima beans in cargo from Cuba. This pyralid, not reported from the United States, is widely distributed over the tropical world.

Pathological

On October 11, 1929, a fungus specimen was collected from a dead plant of Laburnum alschingeri on an estate in Essex Fells, N. J., which was determined as Phomopsis rudis (Nke.) V. Hohn, the conidial stage of Diaporthe rudis (Fr.) Nke. by Dr. C. L. Shear and Mr. W. W. Diehl, of the Bureau of Plant Industry. This constituted the first report of this disease from the United States. The disease has been reported from Europe, and as this plant was imported from England under special permit, considerable interest was attached to this specimen. The entire plant was secured in January, 1930, and the determination was verified; whereupon the inspectors of the Plant Quarantine and Control Administration who inspect special permit material in the field were asked to look for symptoms of this disease on Laburnum and close relatives during the growing season of 1930. As a result several specimens of Laburnum, Genista, Cytisus, and Caragana were submitted and the following records have just been completed: Phomopsis rudis on Laburnum watereri, L. parksii, L. alpinum, Genista praecox alba, and Diaporthe rudis on Cytisus nigricans carlieri from Essex Fells, N. J.; Phomopsis rudis(?) on Caragana sp. from Tippecanoe, Ohio; Diaporthe rudis on Laburnum vulgaris(?) from San Francisco, Calif., on L. adami from Locust Valley, L. I., and on Cytisus purpureus incarnatus and C. purpureus pendulus from Yonkers, N. Y.

Some of the other specimens collected in a survey for Phomopsis were determined as follows: Cucurbitaria caraganae, Coniothyrium sp. and Phoma sp. on Caragana decorticans from Foster, Ohio; Cytospora sp. and Sphaeropsis malorum on Genista (?) sp. from Locust Valley, L. I.; Gloeosporium (gargaricum?) on Cytisus Dorothy Walpole, and Physalospora sp. and Diplodia sp. on Genista praecox alba from Essex Fells, N. J.; Fusarium sp. on Laburnum vossi from Perry, Ohio. Determinations for a few of the collections have not yet been received.

Sixty-eight interceptions of Elsinoe canavaliae have been made at New York on Lima beans arriving from Cuba (in cargo) since the preparation of the note appearing in the previous issue of the News Letter. Fifty-one determinations of Bacterium phaseoli, six of Colletotrichum lindemuthianum, and four of Diaporthe phaseolorum were made of interceptions of these beans in the same period.

A heavy infestation of Tylenchus dipsaci in a potato from Germany (in ship's stores) was found at Philadelphia. Tylenchus pratensis was found in horseradish from Germany (in cargo) at New York, and twice in lily-of-the-valley pips from Germany (in cargo) at Detroit. A potato from South Africa (in ship's stores) was found at Philadelphia to be heavily infested with Aphelenchus avenae.

A specimen of holly leaves from Canada (in mail) was badly infected by Phacidium multivalve. Although the fungus has been reported in Europe, this is the first report of it on this host for America.

Ramularia cynariae was found on three specimens of globe artichokes from France (in ships' stores) at Philadelphia. This fungus has been reported from parts of Europe and South America on this host and is said to cause severe damage at times in France.

Cladochytrium tenue was found on Iris leaves from Japan (in baggage) at Seattle. The fungus has been reported from the United States, but is not common here, and from Germany, Poland, Finland, and France.

The first report from the United States of Phomopsis incarcerata on Rose was obtained by the determination of a specimen of this disease on Rosa elegantula imported under special permit and growing in Yonkers, N.Y. This disease is reported from Europe but the literature contains little as to its importance.

INSPECTION ACTIVITIES EXTENDED ON MEXICAN BORDER

In an effort to determine the volume and kind of traffic passing through the ports of Dolores, Tex., and San Luis, Ariz., at which there are at present no plant quarantine inspectors, these ports are being investigated by Messrs. O. D. Deputy, of Brownsville, and C. E. Bellis, of Nogales. Information has recently been received to the effect that Dolores is open to the public two days a week, and San Luis was made a port of entry in the spring of 1930.

Effective February 1 the ports of Brownsville, Laredo, Eagle Pass, and Del Rio, according to instructions issued by the Treasury Department, will be open to the public twenty-four hours per day. Heretofore these ports closed at midnight and opened at 6 a.m.

Mr. E. M. Dieffenbach has been in Washington since the first of the year preparing plans for the proposed car fumigation house to be built at Presidio, Tex.

FRUIT FLY HOST MATERIAL FOUND IN SHIPS' STORES OF FOREIGN VESSELS ARRIVING COASTWISE

The importance of making as thorough inspection of vessels arriving via United States ports as of those arriving direct from foreign countries was illustrated recently at Norfolk, Va. Oranges from Spain in one instance and from South Africa in the other were found in ships' stores of two vessels from foreign ports. One vessel had previously called at one United States port and the other at two United States ports without any contraband being found. Upon arrival of these vessels at Norfolk the contraband material was discovered, seized, and destroyed.

UNIFORMS

The Division of Foreign Plant Quarantines has recently issued revised specifications for standard service uniforms and instructions for their use. The most important change in the revised uniform specifications is the cap

requirement, which specifies a Pershing type army officers' service cap. The specifications for the cap are identical with those for United States army officers with the exception that the color of the cloth covering and braid is to be forestry green.

Briefly, the standard service uniform for the Division of Foreign Plant Quarantines consists of a three button single breasted sack coat of conservative design, and straight cut trousers with or without cuffs. The suits may be made of unfinished worsted, serge, whipcord, gabardine, or tropical worsted; color, forestry green. White collars, black four-in-hand ties, and either tan or cordovan shoes are required to be worn with the uniform.

All inspectors are required to be neatly dressed in this uniform at all times when meeting the public.

CACTI NOW POPULAR

During the last two or three years there has been a notable increase in requests for special permits by specialists and botanic gardens to allow importation of Cacti and succulent plants. This is due to the greater interest being taken in these plants by the general public and by the establishment of a New National Society,--The Cactus and Succulent Society of America, with headquarters at Los Angeles, Calif.

The florists have also placed on the market miniature cactus gardens made up in various types of receptacles. These miniature gardens became interesting objects for the living or dining room, and are quite popular with the plant lover. The plants require no special attention regarding culture and lend themselves readily to the ordinary dwelling house conditions.

Among the plants requested we find the following interesting genera indigenous to Mexico: Pachycereus; Mammillaria; Neomammillaria; Strombocactus; Echinofossulocactus; Mamillopsis; Thelocactus; Pelecyphora, and Astrophytum.

A EUROPEAN POPLAR BORER INTERCEPTED

On December 4, the Washington inspection house staff found larvae of Trochilium apiforme, a clear-winged hornet-moth (Sesiidae), in a shipment of poplar (Populus alba) coming from Germany to the city of Cleveland under special permit. The plants were held for return or destruction. T. apiforme occurs in the northern United States. In Europe it is listed as of economic importance and is reported to have caused damage to poplar or aspen trees in Russia, Italy, and Sicily. The larva bores in the wood, pupating in a cell of frass near the exterior. One account indicates that the larvae have lived for two years in the trunk and roots of Populus tremula and P. nigra (Sicily).

JAPANESE CHERRY INTERCEPTION

In a communication addressed to the head of a Pacific steamship company in Seattle, Wash., Mr. A. G. Webb, Port Inspector in that city, calls attention to an attempt made by an officer of the Hawaii Maru to bring ashore a package of 25 Japanese flowering cherry trees. The shipment was represented as a present for the Tacoma Park Board, which body disclaimed all knowledge of or responsibility in the matter. The trees were held under seizure by the Customs Service for destruction.

ATTEMPT TO SMUGGLE CACTI

Through the timely efforts of inspectors of the Administration and the splendid cooperation of the Customs Border Patrol, an attempt to smuggle into this country two truckloads of valuable Cactus plants across the Mexican border near Nogales, Ariz., was frustrated last spring. The smugglers were arrested and temporarily jailed for violation of the customs laws, and the trucks and plants were confiscated. Both members of the smuggling party were later released pending a hearing on their case before the Federal Court at Tucson. The leader of the party has since left the country, a fugitive from justice.

QUARANTINE 37 SLIGHTLY REVISED

A slight revision of Quarantine No. 37, the Nursery Stock, Plant, and Seed Quarantine, was approved by the Secretary of Agriculture on December 22, 1930, to include in the new edition the single amendment of Regulation 3, promulgated July 29, 1929, and other minor changes in wording. The amendment referred to provides for the exclusion after June 30, 1931, of all fruit stocks not already excluded under the provisions of Regulation 3. The footnote to Regulation 2 is extended to include a reference to the notice requiring a special permit for the entry of Aglaonema. Regulation 3 is revised to provide for the exclusion of elm (Ulmus spp.) seed from Europe; for the freedom from pulp of nuts and seeds enumerated; and for the importation of the plant material permitted entry under Regulation 3 from countries not maintaining inspection for public-service purposes instead of for experimental purposes only. Regulation 4 is revised to include a brief statement of the procedure followed in handling material refused entry. In Regulation 7 provision is made for the entry of Regulation 14 material at the port designated in the permit instead of at Washington, D. C., or--as to trans-Pacific shipments--at San Francisco. This will make it possible to permit the entry at San Francisco of nontrans-Pacific shipments arriving at western ports and to approve additional ports of entry should that become feasible. The footnote to Regulation 14 is revised to indicate briefly how unauthorized Regulation 14 material is handled upon arrival. Appendix A has been revised by removing Porto Rico from item (a) as a territory into which potatoes might be imported from any foreign country for local use, this change being in accordance with an amendment to the potato regulations effective August 1, 1930. Appendix B has been revised by adding Brazil to the list of foreign countries which have provided for inspection and certification.

Appendix C, the list of State inspection officials, has been revised to bring it up to date.

In accordance with this revision of the Quarantine it has been decided to permit the entry of Cactus and other succulent plants from Mexico through the port of San Pedro, Calif., in addition to the ports of San Francisco, Calif., and Washington, D. C., as previously authorized.

AIR LINES COOPERATE IN QUARANTINE ENFORCEMENT

On December 8, 1930, Assistant Secretary of Commerce Clarence M. Young sent out a memorandum to all air transportation operators advising them of the restrictions on the entry of plants, fruits, and vegetables, etc., from foreign countries. This memorandum suggests the desirability of advising all passengers leaving foreign ports for the United States of the plant quarantine regulations of this country. This information could be included in circulars issued by the company, and could also be given in a brief sign, both in English and the language of the country concerned, to be posted in a conspicuous place so that all passengers would have an opportunity to read it prior to boarding the plane. The operators were requested to advise their respective stewards under no circumstances to permit the disposal through toilets while planes are passing over American territory of fruits found in the possession of passengers. Finally, the operating companies are instructed under no circumstances to permit plants, fruits, vegetables, etc., to enter the United States unless the owner has previously secured a permit.

With respect to the approval of new airports as terminals for lines operating to foreign countries, the Plant Quarantine and Control Administration has an agreement with the Interdepartmental Airways Committee whereby approval by that Committee shall be contingent upon sanction of the Plant Quarantine and Control Administration. The following departments are represented on this Committee: Treasury, Commerce, and Labor.

NOTES

Believe it or not, a doll may have a plant disease. H. R. Conway intercepted at El Paso, Tex., July 17, 1930, in hand baggage from Mexico, a curio made from a corn stalk and ear, on which there has recently been identified a species of Physoderma, a fungus causing downy mildew of corn.

Owing to the finding of parasitic nemas in certain new host materials, particularly potatoes, entering at various ports, there has been considerable interest evident in nema infestation. Max Kisliuk, of the Philadelphia office, is credited with a fast one in this connection; apparently with the hope of speeding up the identification process in Washington, he carefully sticks a pin in the specimen at the point where the nemas are to be found.

The following note is taken from The National Nurseryman of January 1, 1931:

" 'Foreign Pick-Ups' is the title of the August and September issues of Nursery Disease Notes issued by the nurserymen's plant doctor, Dr. R. P. White of New Jersey. From what we learn, neither Europe (England?) nor Continental Europe is quite the "Bug-free" paradise we had imagined. They seem to have all the ills that flesh is heir to."

DOMESTIC PLANT QUARANTINES

BLACK STEM RUST

A request to amend the Federal black-stem rust quarantine to prohibit the movement of Mahonia (except M. repens) between the States of Colorado, Iowa, Illinois, Indiana, Michigan, Minnesota, Nebraska, Montana, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming, was recently presented to the Secretary of Agriculture by the National Plant Board. The request was referred to the Bureau of Plant Industry for recommendation and during recent months it has been the subject of a number of conferences between the officers of the Bureau and of this Administration.

TRANSIT INSPECTION

Transit inspection at Kansas City was temporarily discontinued on January 13, and Mr. T. L. Thompson, who was in charge of the work at that station, has been transferred to Indianapolis where he will check car-lot shipments of shelled corn and examine livestock shipments from the European corn borer regulated area to determine whether cornstalks and cobs, which might carry the corn borer, have been used for bedding the stock. Wholesale nursery stock shipments moving by freight will also be checked for violations of other domestic plant quarantines.

The construction of the new Northwestern Railroad express terminal at Chicago, which will be completed about April 1, consolidating three terminals into one, will facilitate transit work by making possible the inspection at one terminal of all nursery stock arriving at Chicago for delivery in that city, as well as all incoming and outgoing express on the Chicago & Northwestern. The terminal will cost $3,000,000, and will cover a floor area of approximately 370,000 square feet.

The freight survey begun in November in the Northeastern States has been extended to the Middle West, where it is being carried on by Mr. John M. Corliss, in collaboration with Mr. R. A. Sheals, field supervisor. The names and locations of important LCL transfer points and principal stations forwarding straight LCL cars to other stations or break-bulk points are being secured. This information will also give the average number of cars forwarded daily and the proportion of the total number of cars dispatched in each direction.

PHONY PEACH DISEASE

Transit inspection activities at Birmingham, Ala., directed primarily to the enforcement of the phony peach disease quarantine, were resumed on January 5 for the first time during the current shipping season. Nursery stock movement throughout the southern area during January has been very light, but judging by past seasons, the volume is expected to increase the latter part of the month and approach a maximum in February.

During the month of December, 857 shipments of peach and other restricted nursery stock were certified by Administration inspectors for nurserymen at Concord, Ga. Shipments were made by mail, express, and freight to 18 eastern and southern States.

A supplementary conference to consider possible future action on the phony peach disease quarantine will be held on February 4 at Atlanta, Ga. The Southern Agricultural Workers will be meeting in that city during the week, and the question of the retention or discontinuance of the quarantine will be discussed by those interested in plant diseases and in the horticulture of the Southern States.

WHITE-PINE BLISTER RUST

At the request of the State Forester of Delaware, Mr. R. A. Sheals, of this office, made an investigation on December 29 and 30 to determine whether white pines were being moved from infected States into the noninfected State of Delaware and planted near Wilmington. He discovered that the pines suspected of coming from adjoining infected States to the north were, in fact, largely being secured from an estate near Wilmington. No quarantine violations were discovered.

The leading nurseries growing five-leafed pines in the Pacific Northwest are making excellent progress in providing permanent protection against blister rust infection, according to the findings of Mr. C. R. Stillinger, who made inspections in and around them during the past fall. The vicinity of each of the important white-pine producing centers has been covered at least once in an effort to eradicate all the currant and gooseberry bushes in the environs, and a partial recheck has been carried out. The nurseries concerned are located in Montana, Washington, and Oregon.

The cost of protecting white-pine stands from the blister rust averaged 18.6 cents per acre in New England and New York during 1929, according to the Blister Rust News, the operations covering 919,755 acres. In Pennsylvania State Forests, the cost averaged 69 cents per acre on 4,877 acres. The operations consist in eradicating currant and gooseberry plants from within the infecting range of white pines.

SATIN MOTH

An amendment to the satin moth quarantine has been issued effective February 1, adding new territory to the regulated area in New England. The effect of the amendment is to prohibit the interstate movement of poplar

and willow trees and parts thereof capable of propagation from this additional territory to outside points.

NARCISSUS BULB QUARANTINE

A conference to review the plant pest situation with respect to narcissus bulbs and to consider the advisability of modifying the present restrictions on the entry from foreign countries and interstate movement of narcissus bulbs, has been called to meet at Washington on January 29. The purpose of the conference is to review the entire situation with a view to promptly determining whether the present restrictions are necessary for the protection of American agriculture and horticulture from pests.

DATE SCALE

During the past calendar year fewer infested palms were found in the Coachella Valley than during any year since the work was inaugurated in 1914. During the month of December 25,759 palm inspections were made in California with no scale found.

Because of low temperatures some smudging was done by citrus growers in the Coachella Valley. The resultant soot on the date palms in the vicinity increased the difficulty of inspection.

During the past four months 3,109 fan palms were inspected in areas in the Coachella Valley where date palms heavily infested with Parlatoria scale have been found in the past five years. Forty-five fan palms were found lightly infested, and these all within 300 feet of a rather heavily infested date palm which had been overlooked by the scout inspectors. From the inspection records it seems that the Parlatoria scale will not readily establish itself on the ordinary ornamental fan palm or, should it become established, will eventually die out. The only fan palms found infested on which the scale seemed to have increased greatly in numbers were young palms. However, as infested fan palms might serve to reinfest date palms, all fan palms in the immediate vicinity of past or present date palm infestations are being inspected.

EUROPEAN CORN BORER

Due to the fact that there has been so much movement of ear corn from Ohio and Indiana into the free area of Kentucky, it has been necessary to establish men on bridges crossing the Ohio River to make inspection to find out where the corn is coming from. It was found that a large amount of the corn on the cob intercepted at these places is coming from the quarantined area and it became necessary to order its return. This is the first time we have ever had to operate quarantine stations at this time of the year, and it is not anticipated that they will have to be operated for any great length of time.

Approximately 2,700 units of corn borer equipment stored at Camp Perry, La Carne, Ohio, have been declared surplus to the needs of the Plant Quarantine and Control Administration and transferrable to other Bureaus of this

Department and other Departments of the Federal service having need for the same. These units consist mostly of tractors, plows, corn stubble pulverizers, oil-burning carriages, trailers, and a few trucks. Approximately 1,000 of these units, including all the trucks except a few Defiance, all the McCormick-Deering and John Deere tractors, and some of the Oliver and Vulcan plows, trailers, pulverizers, and oil-burning carriages, have been allotted to the Forest Service, Bureau of Plant Industry, Bureau of Dairy Industry, Bureau of Entomology, Bureau of Animal Industry, and Biological Survey of this Department. The remaining 1,700 units, consisting of Fordson tractors, Oliver and Vulcan tractor plows, McCormick-Deering corn stubble pulverizers, oil-burning carriages, and Defiance trucks will be allotted in the near future by the Chief Coordinator to other Departments of the Federal service having need for the same. The movement of the units allotted to the Bureaus of this Department is in full progress and all of these units as well as those later to be transferred to other Departments of the Federal service will be moved from Camp Perry, Ohio, before June 30, next.

Clean-up operations of the isolated infestations in Kentucky and Ohio were started under the direction of Messrs. J. H. Ayars and William Kammerer. This will consist of plowing and the hand-picking of debris, and disposing of the drift along the river banks. All of the isolated infestations this year are along the Ohio River.

The headquarters of the European corn borer--Japanese beetle work in Connecticut has been completed and we are now occupying the new building which was constructed for the repair shop and storage. The office building has also been completed.

Arrangements have been made with the Division of Agricultural Engineering, Bureau of Public Roads, for the permanent establishment of engineers in the New England area, with headquarters at Norwalk, to cooperate with the corn borer project in the development of machinery for corn borer control in this area.

Effective at the end of December, Mr. H. T. Cronin, who has been in charge of the fiscal division of the Mediterranean fruit fly project from the beginning of that work, was transferred to South Norwalk, Conn., to work with Mr. Worthley on the European corn borer and Japanese beetle projects.

A revision of the European corn borer regulations has been issued effective January 22, adding new territory to the regulated areas and slightly modifying the shipping restrictions. The most important of the changes consists of transferring New York City, Long Island, and certain adjoining territory from the one-generation to the two-generation regulated area in consideration of new discoveries of the two-generation strain during the past year.

GIPSY MOTH AND BROWN-TAIL MOTH

There was a reduction of approximately 50 carloads in the volume of Christmas tree shipments from the New England quarantined area, which required inspection for the gipsy moth during November and December, as compared with the previous year.

The shipping of a larger quantity of Christmas wreaths and ornamental greenery during the holiday season necessitated more inspection work on this class of products than in any previous year, and the sale of this type of Christmas greenery appears to be on the increase.

An appreciable increase in the shipping by trucks of holiday evergreen products occurred this year. Shipping of these products by this means has consistently increased during the past few years.

A relatively recent novelty developed in New England for the Christmas holiday season has been the sale and shipping of potted evergreens for ornamental purposes. Small evergreens, principally spruce, are placed in pots or sections of birch logs. These serve as ornamental decorations during the holiday season and may also be carried through for spring planting. The sale of these has occasioned considerable additional inspection work when shipment was made to points outside of the quarantined area.

Scouting work in the barrier-zone area has progressed satisfactorily although there has been considerable snowfall up to the present time. The heaviest snowfall occurred in the northern part of the area in Vermont, but as scouting work in that section had been completed for this year, snow conditions have not seriously retarded field operations.

Additional field workers were transferred from the barrier-zone area in New England during December to assist in the intensive scouting operations in New Jersey in connection with the eradication project against the gipsy moth in that State. Early in January the force in New Jersey comprised nearly 100 employees, most of whom were carried on the State payrolls by cooperative arrangement with this activity.

A report was received in December from the New York Conservation Department stating that approximately 85 egg clusters of the gipsy moth had been found up to December 23, 1930, at 19 points in the vicinity of Roslyn, L. I., where a large isolated infestation of the insect was discovered early last year. Intensive scouting operations are being continued by the State in the vicinity of the Roslyn infestation.

JAPANESE BEETLE

A survey of nurserymen, greenhousemen, and other shippers of quarantined articles has been completed in the territory in Norfolk, Va., and environs which was added to the lightly infested regulated area with the revision of the quarantine regulations effective November 10, 1930. The area under regulation in Norfolk, Portsmouth, and vicinity is comparatively isolated

from the other regulated zones. Shipments of nursery stock, sand, soil, earth, peat, compost, and manure may be moved from this isolated area without restriction only when transported across Chesapeake Bay to points in Northampton or Accomac Counties on the eastern shore of Virginia, or when transported by boat from a dock within the Norfolk-Portsmouth area directly to another port in either the lightly or generally infested areas without docking at a port in an unregulated area. Quarantined material may thus move without certification via ships from Norfolk whose first ports of call are Baltimore, Philadelphia, or New York. Due to the nature of the infestation in this isolated area, it has not been found necessary to regulate the movement of farm products. These latter articles may, therefore, be transported from Norfolk and vicinity without restriction under the quarantine regulations.

At the direction of the Coordinator of the Third Area, two 50-gallon drums of denatured alcohol from a total declared surplus of 40 drums were shipped to Norfolk, Va., for the use of the United States Shipping Board at that point. Arrangements have also been made for the transfer via naval trucks of the remainder of the surplus, 38 drums or approximately 1,900 gallons, to the United States Naval Air Station at Lakehurst, N. J.

Five of the project's trucks were loaned to the Post Office Department for their use during the Christmas rush. Four sedan delivery trucks were turned over to the Camden, N. J., post office from December 18 to 29, inclusive. A one-half-ton truck with pick-up body was also assigned to the post office at Dover, Del., from December 15 to 26, inclusive. With the exception of the loss of the rear license plate on the truck borrowed by the post office at Dover, Del., all trucks were returned in good condition.

MEDITERRANEAN FRUIT FLY

Activities connected with the reorganization of the Mediterranean fruit fly work, to place it exclusively on an inspection basis, occupied most of the time of the remaining personnel of the project during December. Regarded as of major importance in this connection was a series of conferences with the field forces, ten of which were held between December 5th and 18th. Dates and districts in respect to these events were as follows: December 5, District 1, Orlando; December 8, District 3, Winter Haven; December 9, District 5, Tampa; December 10, Districts 8 and 9, Sebring; December 11, District 10, Fort Lauderdale; December 12, District 2, Melbourne; December 15, District 4, Tavares; December 16, District 6, Ocala; December 17, District 11, Daytona Beach; December 18, Districts 7 and 12, Jacksonville.

All of the meetings were attended by Mr. Hoidale, in charge of the project, and most of them by Mr. Kimball, directing field inspection. Others from the Orlando headquarters who were present at some of the conferences included Mr. Fox, administrative officer, fiscal division, and Messrs. Langford, Gaddis, and Johnson, assistants to Mr. Kimball. While here from Washington, Mr. Connor went to a few of these gatherings. At the conclusion of the series, an individually typed and personally signed letter from Mr. Hoidale was

mailed to each inspector who had attended one of the conferences, in which additional stress was placed on some of the points brought out therein.

Examining trial of Mr. Byrd, field inspector, formerly employed in the quarantine line division, held at Madison, December 22, was on charge of illegal parking, later changed to manslaughter. A Department truck driven by Mr. Byrd, while parked on the roadside during adjustment of ignition trouble, was run into some weeks ago by a passenger car containing a man and his wife, both of whom were killed in the collision. The defendant was bound over to the grand jury under $500 bond. An assistant United States district attorney was assigned to the case.

Increasing tendency to neglect grove sanitation was in evidence throughout the month. Indications that the picking up and disposal of drops might be continued in considerable degree, observed after the lifting of the Federal quarantine, failed to be maintained in practice. When special reports from district inspectors were requested as of December 20, it was found that only a very small percentage of commercial properties have kept up the practice in accordance with the regulations formerly in effect.

Marketing conditions in the citrus industry have become acute, ruling prices returning many growers less than cost of production. The consequent demoralization has extended into the ranks of the selling agencies, and is affecting the cooperative organizations. Numerous meetings to consider ways and means of attaining improvement were held during the month, but without any noticeable results.

Few refusals to permit entry of property for inspection purposes were reported in December. In one somewhat aggravated case, that of Mrs. Ida Peterson Hancock, of Lakeland Highlands, Polk County, the circumstances in detail were placed before the State Plant Board, which has instructed its attorneys to take steps looking to legal proceedings if they are found to be necessary.

Orlando offices of the Administration were favored during December by the second visit which has been made them by Mr. Connor, business manager. Arriving on the 11th and leaving on the 20th, Mr. Connor made several trips through the field and went into matters quite thoroughly in all of the divisions at headquarters.

Men designated by the local newspapers as "bug racketeers" have been operating in Tampa and vicinity, representing themselves as Government inspectors authorized to spray trees and plants for protection against insects, and collecting fees from property owners for the service.

Two International speed dump trucks, which had been ordered transferred to the pink bollworm work, were called for by Messrs. Hensley and Pulliam, inspectors on that project, who came from San Antonio, Tex., with letters of introduction from Mr. Puckett, administrative officer.

Monthly report for December of the identification division showed that for the period 34,364 specimens were examined. Of this total 26,492 were from the Mediterranean fruit fly project, and 7,872 from the Mexican fruit worm project.

Approximately 135 units of corn borer equipment transferred during May and July, 1929, from Camp Perry, La Carne, Ohio, to Orlando, Fla., for use in the Mediterranean fruit fly eradication work in Florida and now stored at Orlando, have been declared surplus to the needs of the Plant Quarantine and Control Administration and practically all allotted to various Bureaus of this Department. The units consist of McCormick-Deering tractors, John Deere tractors, McCormick-Deering corn pulverizers, oil burning carriages, trailers, and some large trucks, principally the Defiance. Approximately 762 large tires and 810 tubes therefor have been declared surplus at Orlando and allotted to various Bureaus of this Department having need for the same. Shipments of these units of equipment and the tires and tubes from Orlando have been started and will be completed in the near future.

MEXICAN FRUIT WORM

The fourth round of grove inspection for the season was completed during the month of December with negative results. Nine hundred and fifty-five collections, totaling 8,701 suspicious specimens, were made during the month. Groves were found to have been maintained in an excellent condition during the month, making it necessary to withhold "certificates of grove inspection" on only about 4 per cent of the 5,069 groves inspected.

For the first time since the infestation was found in Matamoros, Mexico, in September, 1929, a month has elapsed without catching an adult *Anastrepha ludens* in the traps in Matamoros. The last adult was caught November 4, making practically two months in which no adults have been caught. About 100 cylindrical fly traps baited with orange extract are maintained in the patios of houses in Matamoros. Inspection of fruits growing in the patios also gave negative results. During the month 32 larvae of *A. ludens* were taken from oranges offered for sale in the market at Matamoros. These oranges originated at Montemorelos, Nuevo Leon, which is located about 100 miles below the border.

Due to a weak market, as a result of the general depressed economic condition over the country, the movement of fruit by rail from the Valley was sluggish throughout the month. Practically all the packing houses closed down around the 20th, with several opening up again in a light way during the latter days of the month. However, the shipment of single boxes and gift packages was the heaviest for any month in the history of the industry. To December 31, 1,634 carloads of citrus had been shipped by rail, and approximately 383 carloads had moved from the quarantined area by truck and passenger car. It is estimated that between 65 and 70 per cent of the present crop has been harvested.

Coloring and sterilizing tests of Valley-grown fruit were continued in the specially constructed room in Brownsville with good results. Some work was also started on the effects of low temperatures on Valley fruit.

As was to be expected, confiscations of unpermitted fruit at road traffic inspection stations were heavy during the month due to the large amount of holiday travel. It was necessary to confiscate and destroy 106¾ boxes at the two stations. Owners returned 30¼ boxes to the quarantined area for proper permitting.

PINK BOLLWORM

Inspection Laboratory

The official opening of the pink bollworm inspection laboratory at San Antonio, Tex., which was held on January 9, marks a distinctive step forward in inspection methods. Fitting ceremonies were observed in connection with this formal opening. The various steps followed in inspecting the bolls have been worked out very satisfactorily, and briefly they are as follows:

(1) The green bolls are first passed between rollers to crack them.

(2) They are then soaked in a vat of water for about 24 hours to dilute the formalin.

(3) The bolls are now sent through a centrifugal machine to remove the water.

(4) Inspectors then remove the lint and examine the burrs for typical signs of the pink bollworm.

(5) The lint is sent through a drying machine and then ginned. The gin is equipped with a special beater which separates any substances like the pink bollworm from the lint.

(6) The seed are then imbedded in paraffin blocks and run through a slicing machine. This machine is set so that each seed is cut. Inspectors then examine the slices.

The possibility of overlooking a pink bollworm infestation in the material examined seems to be reduced to a minimum.

There are approximately 10,000 samples of green bolls ready for examination, representing practically every county in the principal cotton-growing States. These green bolls were collected late in the season when an infestation, if present, would have had time to build up to a maximum; also, when the number of green bolls was at a minimum.

The bolls were collected in tin cans, each can holding 100 bolls. The cans were filled with a solution of formalin, placed in crates, each crate holding 10 cans, and shipped to the collecting points. The plan followed was to collect 100 bolls from each field selected--20 from each corner and 20 from the center. Our inspectors were given valuable assistance and cooperation in

this work by State entomologists, county agents, vocational agricultural teachers, and farmers.

The laboratory inspection has for its purpose the covering lightly of a very large area for which no facilities are available for covering in any other manner. Considerable attention was given to selecting fields from which the samples were obtained, and it is felt that the above method of inspection should give a fairly accurate idea of the presence or absence of the pink bollworm in the main Cotton Belt.

The laboratory method of inspection has a number of advantages over the field method. In the first place, a much greater area can be covered with the available funds and in a much more thorough manner. Present indications are that a much larger number of bolls will be examined per day by the laboratory method. Even though the same number of bolls could be examined, the laboratory method would still be more thorough, in that each seed is examined, whereas this is impossible under field conditions.

The most effective time for finding an infestation in the field is during October and November. Material for laboratory inspection is collected when it is in the best stage for inspection. Therefore, laboratory inspection is always conducted as if done during the effective period. However, field inspection is important in delimiting infestations. Approximately 22 inspectors will be engaged in laboratory work, which will run from about January to July, or during the time when no very satisfactory material is available for field inspection. These inspectors will thus be doing effective work either in the laboratory or in the field throughout the year.

Road Stations

Living pink bollworms have been found in several recent interceptions of material coming from the heavily infested Big Bend area of Texas, one of which is especially outstanding due to the fact that it was made at 1 o'clock in the morning. This particular interception was made by Inspector H. G. Thompson at the Ft. Davis, Tex., station and consisted of two cotton picking sacks which contained approximately one-eighth pound of seed cotton. An examination of this seed cotton resulted in the finding of five pink bollworm larvae, three of which were living. These interceptions demonstrate very clearly that even a small amount of seed cotton from a heavily infested area is capable of spreading an infestation.

Arizona Situation

The eradication program for the pink bollworm in the Salt River and Gila Valleys of Arizona is getting well under way.

Due to the light, but rather widespread, infestation that developed in the 1930 crop in this area, it has been determined most advisable to continue the eradication by a modified program. The heavily infested spot in the 1929 crop, consisting of about 37,000 acres of cotton, was brought under control by means of a noncotton zone in 1930. In 1931, cotton will be produced in the

lightly infested areas, including that area in a noncotton zone in 1930, under strict rules and regulations believed adequate to effect eradication, at least in parts of the area.

Measures of eradication being applied consist principally of burning of cotton remnants left in the fields, plowing and irrigating the land during the winter, and delaying planting in the spring. By this means, many overwintering larvae will be killed in the fields. Cotton planted late--Pima, April 1; Upland, April 20--will come into fruiting after the spring peak of emergence of the moths is over.

In addition to the above, the plan calls for the keeping down of volunteer or stub cotton which otherwise would offer early opportunity for the insects to propagate. This program is being carried out without expense to the Government, except for supervision. Growers and others interested in cotton are entering whole-heartedly into the program of eradication and are thus modifying the cultural program.