



Pathology Submittal Instructions

If you are a vegetable grower, involved in nursery or plug production, own an orchard or if you find yourself responsible for landscape installations and maintenance, chances are that sooner or later you will run into a disease problem. When a disease outbreak occurs you may wish to seek the expertise of Waypoint Analytical's Anaheim, CA location which offers plant disease diagnosis. Accurate identification of the problem is paramount for developing the right management strategies to prevent further loss of plant material. The accuracy of a given diagnosis is highly dependent upon the quality of the sample submitted and the amount of background information given, i.e. poor samples equal poor diagnosis. The following are a few tips on submitting samples for pathology work that will help you obtain the best possible diagnostic service for you money.

Collect fresh material and try to submit several specimens that display different stages of the observed symptoms. Keep in mind that the pathogen is not always in symptomatic tissue. For example, symptoms observed in the foliage such as chlorosis, marginal necrosis, leaf drop, and wilt may be associated with a vascular wilt or a root rot therefore include as much of the plant as possible.

Plants in advanced stages of disease development (dead) are poor samples since many secondary organisms will have moved in making isolation and identification of the pathogen difficult.

Place samples in a polyethylene bag and label the bag accurately. Place a dry paper towel in the bag to act as a blotter to prevent plant material from decomposing during transit. When submitting roots, handle these with care. Avoid leaving feeder or rotted roots behind. Include a liter of soil to prevent roots from drying out. This soil can also be used for pH, salinity, fertility and nematode testing if needed.

If submitting an entire plant, wrap a twist-tie around the stem at ground level to keep soil off the foliage.

Include the questionnaire to provide information on growing practices, e.g. fertilizer, growth regulator, herbicide and pesticide applications. Information regarding recent environmental conditions e.g. humidity, temperature, wind, etc. is also very helpful. As obvious as it may seem do not forget to include your name, phone number and email address.

If you are shipping samples to us outside of California, please include USDA APHIS Permit 526 inside and outside the shipping package.

It is very important to keep the samples cool and moist. If samples are taken early and will not be shipped to the lab for several hours, place them either in the refrigerator, or in a cooler with an ice pack. The sooner the samples arrive at the lab the better chance the diagnostician will have to isolate the pathogen(s); Priority or Next Day delivery is best.

You should realize that some plant problems will unfortunately defy complete diagnosis, and it may be necessary to submit additional samples.

Although the diagnostician should come closer to a definitive answer with each subsequent sample submitted, there will be time when certain plant problems will go unsolved. Diseases involving more than one casual agents often fall in this category. Finally, if you have any doubts as to what to send or any questions regarding sampling, do not hesitate to give the laboratory a call. The diagnostician will be more than happy to walk you through the process to insure a proper sample is submitted.

www.waypointanalytical.com

4741 E. Hunter Ave., Suite A, Anaheim, Ca 92807
714.282.8777

Pathology Questionnaire/Submittal Form

<p>1. Company name: _____ Contact Name: _____ Mailing Address: _____ City/State/Zip: _____ Job Name/Number: _____ Phone: _____ Fax: _____ Email: _____</p> <p>2. I would like my sample results: () Faxed; () Emailed Plant/Crop affected: _____ Variety: _____</p> <p>3. Age: _____ Type of planting: () commercial; () greenhouse; () nursery; () residential; () field; other: _____</p> <p>4. Plant site (for landscape only): () street side; () lawn; () ground bed; () terrace; () patio; () indoor Distribution of disease: () scattered; () localized; () uniform; () on slopes; () high spots; () low spots Percentage of plants affected: _____</p> <p>5. Part of the plant affected: () roots; () stem/trunk; () seed; () branch/twigs; () leaves; () bulb/corm; () flower; () fruit; () entire plant; other: _____</p> <p>6. General symptoms: () malformation; () canker; () dieback; () galls; () spots; () marginal burn; () gumming; () stunting; () wilting; () mosaic/mottling; () yellowing; () shot hole; () defoliation; () tip burn When and where were symptoms first observed? _____</p> <p>7. Disease situation: () progressive; () relatively stable Other: _____</p>	<p>11. Effect on plant: () slight; () moderate; () severe; Other: _____</p> <p>12. Soil type: () heavy clay; () clay-loam; () loam; () sandy; () rocky; () container media</p> <p>13. Drainage: () good; () medium; () poor</p> <p>14. Weather (past two weeks): () Rain: _____ amount: _____ frequency: _____ relative humidity: _____ () Cloudy; () Partly cloudy; () Sunny; () Unseasonably hot; () Unseasonably cold () Wind - () low; () moderate; () high</p> <p>15. Chemicals applied: (rates, dates & methods of application): Fertilizers: _____ Fungicides: _____ Herbicides: _____ Insecticides: _____ Other: _____</p> <p>16. Evidence of insect activity? () yes () no</p> <p>17. General disturbances: () gas leak; () construction near by; () soil added or removed from around plants; () excavation nearby? _____ feet away () other: _____</p>
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SEND SAMPLES TO:
 Waypoint Analytical
 4741 E. Hunter Ave.
 Suite A
 Anaheim, CA 92807
 714.282.8777



Waypoint
 ANALYTICAL

NO PERMIT WILL BE ISSUED TO MOVE AND USE LIVE INSECTS OR PLANT PESTS OR NOXIOUS WEEDS UNTIL A COMPLETED APPLICATION IS RECEIVED.

DEPARTMENT OF FOOD AND AGRICULTURE PLANT HEALTH AND PEST PREVENTION SERVICES 1220 N STREET, ROOM 210 SACRAMENTO, CALIFORNIA 95814		SECTION A TO BE COMPLETED BY APPLICANT			
APPLICATION AND PERMIT TO MOVE AND USE LIVE PLANT PESTS OR INSECTS OR NOXIOUS WEEDS (Attachments may accompany application if space is insufficient)		1. NAME AND ADDRESS (Include organization name and Zip Code) Paul F. Santos Waypoint Analytical, Inc. 4741 E. Hunter Ave. - Suite 'A' Anaheim, CA 92807			
3. TYPE OF ORGANISM <input checked="" type="checkbox"/> Arthropod <input checked="" type="checkbox"/> Pathogen <input type="checkbox"/> Noxious Weed <input checked="" type="checkbox"/> Nematode		2. TELEPHONE NUMBER/FAX NUMBER/EMAIL 714-282-8777/ 282-8575/ psantos@waypointanalytical.com			
4. SCIENTIFIC NAME OF ORGANISM	CLASSIFICATION (Order, Family, etc.)	LIFE STAGES	NUMBER OF SPECIMENS	MOVED OR SHIPPED FROM	WHAT HOST MATERIAL WILL ACCOMPANY PEST?
Plant Pathogenic Virus			Multiple	Throughout State	All Plant Tissues
Plant Pathogenic Fungi	Fungi	Fruiting bod	Multiple	Throughout State	All Plant Tissues & Soil
Plant Pathogenic Bacteria	Bacteria	Bacterial ce	Multiple	Throughout State	All Plant Tissues
5. ADDRESS OF USE LOCATION IF DIFFERENT THAN ITEM 1.		6. NAME AND ADDRESS OF SUPPLIER Various		7. DESTINATION COUNTY Orange	
8. APPROXIMATE DATE OF MOVEMENT Multiple	9. NUMBER OF SHIPMENTS Multiple		10. METHOD OF SHIPMENT <input checked="" type="checkbox"/> Mail <input type="checkbox"/> Freight <input type="checkbox"/> Baggage <input checked="" type="checkbox"/> Auto		

11. INTENDED USE (Be specific; state whether use will be in a laboratory and/or greenhouse and/or in the field, and, in the case of pathogens, state whether use will include plant inoculation.)

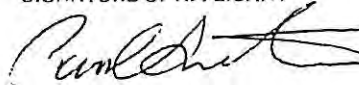
Received material will be used strictly for diagnostic purposes involving microscopy examination, traditional culturing onto agar plates, and immunological assays. In accordance with our USDA 562 APHIS permit, our facility will not conduct any plant inoculations.

12. METHODS TO BE USED TO PREVENT ESCAPE OF THE ORGANISMS Clients are instructed to submit samples in sealed double plastic bags. In the lab, samples are handled in restricted room under a certified II BioSafety hood.	13. METHOD OF FINAL DISPOSITION Autoclaving of all received material and associated packaging, which is then taken to municipal landfill.
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14. I/We agree to comply with the Standard Conditions of Permit, and understand that the permit is subject to other conditions which may be prescribed.

SIGNATURE OF APPLICANT

DATE



09/26/16

SECTION B - TO BE COMPLETED BY STATE OFFICIAL

PERMIT

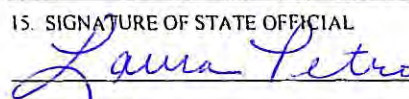
PERMIT NUMBER

(Permit not valid unless signed by an authorized official of Plant Health and Pest Prevention Services Division)

3292

Under authority of Section 6305 of the Food and Agricultural code, permission is hereby granted to the applicant named above to move and use the organisms described, except as deleted, subject to the conditions stated on, or attached to, this application.

VIOLATION OF ANY OF THE CONDITONS OF THIS PERMIT SHALL BE SUFFICIENT CAUSE FOR ITS IMMEDIATE REVOCATION.

15. SIGNATURE OF STATE OFFICIAL 	16. DATE ISSUED December 1, 2016	17. EXPIRATION DATE December 31, 2018
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Copy to: County Agricultural Commissioner
Pest Exclusion
Plant Pest Diagnostics Center
Supplier
File

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Attachment to FORM 66-026

Section 4 – continued

Scientific Name of Organism	Classification (Order, Family, etc.)	Life Stages	Number of Specimens	Move or Shipped from	What Host Material will Accompany Pest
Plant Parasitic Nematodes	Nematodes	Eggs, J2, Adults	Multiple	Throughout State	Soil and Plant Tissues



STANDARD CONDITIONS OF STATE DIAGNOSTIC PERMIT

Permit No. 3292

1. This permit is authorized for the isolation and culturing of plant pathogens only, excluding citrus canker, citrus variegated chlorosis, or any plant pathogen not known to occur in California. Isolation and culturing of animal pathogens, such as anthrax, hoof and mouth disease and exotic Newcastle disease, is prohibited and must be reported to State regulatory officials if found; all animal pathogens must be destroyed.
2. If work conducted under this Permit finds any plant pathogen not known to occur in California, and/or is a quarantine pathogen, regardless of the origin, the California Department of Food and Agriculture, (CDFA), Plant Health and Pest Prevention Services (PHPPS), Permits and Regulations, must be notified within 24 hours at permits@cdfa.ca.gov. Maintenance of these pathogens is prohibited.
3. **A written report of pathogens identified (including host information and provenance) must be provided semi-annually** to: Permits and Regulations, Plant Health and Pest Prevention Services, CDFA, 1220 N Street, Room 221, Sacramento, CA, 95814, or e-mailed to Permits@cdfa.ca.gov. **If a culture collection is authorized under this permit, a list of the cultures kept in storage must also be included in this report sent to CDFA.**
4. All organisms or infected plant material shall be shipped in sturdy, escape-proof containers.
5. A copy of the permit must accompany each shipment of approved organisms, either inside or outside the package. (California Food and Agricultural Code, Section 6305).
6. Permittee shall notify the office of the receiving County Agricultural Commissioner upon the arrival of each shipment (California Food and Agricultural Code Section 6401).
7. All packages shall be opened in a laminar flow biosafety cabinet, Class II, Type A, in a secure room to prevent the escape of pathogens and insect pests. All isolations and culture transfers shall be conducted in a laminar flow biosafety cabinet that meets or exceeds Class II, Type A or other safe manner. Organisms, and infected plant material if any, shall be kept and used only within the laboratory or designated area at the permittee's address and/or the address specified in Item 5, Section A.
8. No living organisms kept under this permit, inoculated plants, or infected plant material, shall be removed from the confined, designated area except by prior approval from State and, if applicable, federal agricultural regulatory officials.
9. Without prior notice and during regular business hours, federal, state and county agricultural regulatory officials shall be allowed to inspect the conditions under which the organisms are kept and used.
10. All necessary precautions must be taken to prevent escape of pests. In the event of pest escape, this office shall be immediately notified at (916) 654-1017.
11. Upon identification of pathogen, all infected plant material, including: seeds, plant debris, soil, cultures, containers, tools or anything that has contacted the regulated materials must be devitalized by autoclaving, incineration, or other equivalent methods. Glassware and other materials used to conduct research must be decontaminated by soaking in a fresh bleach solution of 10 percent (1:10) for at least 30 minutes, in 70 percent ethanol, with quaternary ammonium compounds, or flamed with ethanol.
12. All packaging and research materials that come in contact with organisms and/or contaminants and all un-used and leftover material must be sufficiently heat or chemically treated to kill all plant pests and contaminants prior to disposal.
13. No plant inoculations are allowed except for what is necessary for identification purposes. Whenever possible, plant inoculations must be performed in growth chambers. If greenhouse studies are necessary, and have been authorized under this permit, access to the greenhouse must be limited to the permittee and only trained staff. Greenhouse doors must be kept closed and locked at all times. Greenhouse studies are only authorized for organisms previously confirmed in the laboratory and by CDFA as not being quarantine pests or new records for the state. Permittee must request approval from CDFA prior to moving to the greenhouse.

14. Greenhouse must be screened to prevent vector entry or escape. Ongoing monitoring of potential vectors is mandatory. Insect control must be in practice at all times including insect spraying, and use of sticky traps.
15. No vector transmission permitted. If necessary for virus diagnostics, only mechanical inoculation is allowed.
16. There is to be no further distribution of these organisms without prior approval from State and Federal regulatory officials.
17. According to the Food and Agricultural Codes, the movement of organisms and plant material from areas under interior quarantine regulations in California is prohibited except under a special permit specifically written for the quarantine pest. For a current list of California Interior Quarantines, please access the Plant Quarantine Manual at the following website: <http://www.cdfa.ca.gov/phpps/Manuals.html>. In addition, please check the CDFA Pest Rating Website for a list of Quarantine Actionable Pests which have an "A" or "Q" rating at: http://www.cdfa.ca.gov/plant/regs_pestrating.html#path.
18. The permittee will report permit related problems by phone followed by e-mail within three days of the occurrence to the California Department of Food and Agriculture, Permits and Regulation Program, at 916-654-1017 and email permits@cdfa.ca.gov.
19. This permit is issued only for the named permit holder at the address identified on this permit and cannot be transferred or assigned. If the permit holder ceases to be employed at this location where the organisms received under this permit are kept, the permit holder must destroy the organisms, unless a new individual submits a Form 66-026, obtains a permit prior to the permittee's departure, and assumes responsibility for the continued maintenance of the authorized organisms.
20. Violation of any of the conditions of this permit, or the detection of any serious live plant pest in any shipment authorized by this permit, shall be sufficient cause for immediate revocation of this permit.

