

Sample Preparation and Submission to the Plant Pest Diagnostics Branch Plant Pathology Laboratory



PPDB Meadowview Facility

There are five laboratories at the Plant Pest Diagnostics Center (PPDC).

To avoid delays in identification, please be sure to submit samples to the appropriate lab.

Samples submitted to an incorrect lab will be subject to delays to determine the appropriate lab for sample analysis.



Botany



Entomology



Nematology



Plant Pathology



Seed Science

Sample Collection Basics

- Don't be stingy, **more is better**. Please send multiple specimens whenever possible.
- For plants, send whole fruits or plants; do not cut off bits and pieces. **Do not place in alcohol or wet paper towels.**
- Take care when collecting and processing plant material so as not to break, crush or otherwise damage the sample.
- Double bag plants or plant parts (i.e. whole fruits) into plastic bags, sealing bags independently of each other. Include samples with a range of symptoms. Attach labels or tags to outside of bag.
- For whole plants, tie plastic around root ball to keep leaves getting dirty. Then put whole plant in a big plastic bag. Avoid direct sunlight for sample.



Sample Preparation Basics

- Place individual leaf samples between dry paper towels and sandwich them between stiff cardboard for protection. Place in labeled plastic bag and mail. Never send them wet.
- Don't cram and jam. Use a jar, bag, or envelope of appropriate size. Specimens damaged in transit will be difficult to identify, and delay the identification. Use a second container if needed rather than try to fit a sample into one small container.



Sample Preparation Basics

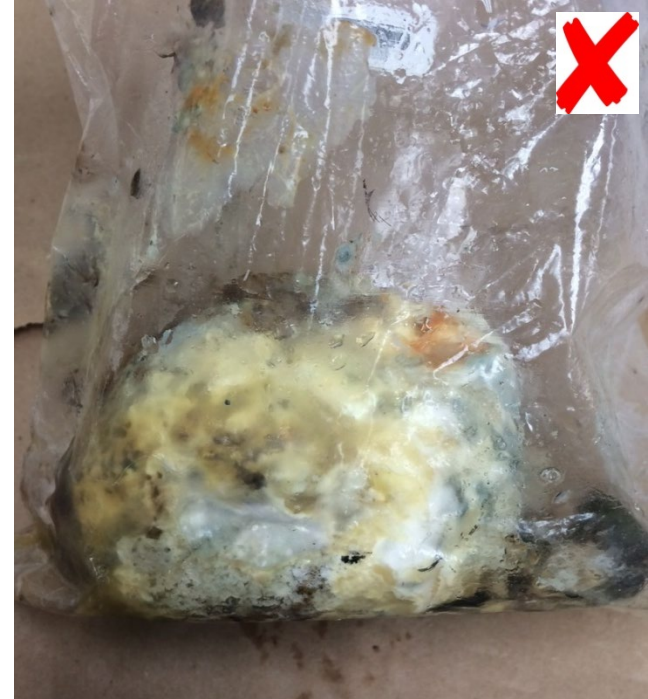
- Never send rotten, liquefied fruit to any of the 5 labs.
- Send whole fruits and not small bits and pieces.



Intact mango with suspect disease/pest apparent.



Chopped up pieces of symptomatic fruit sent in alcohol.

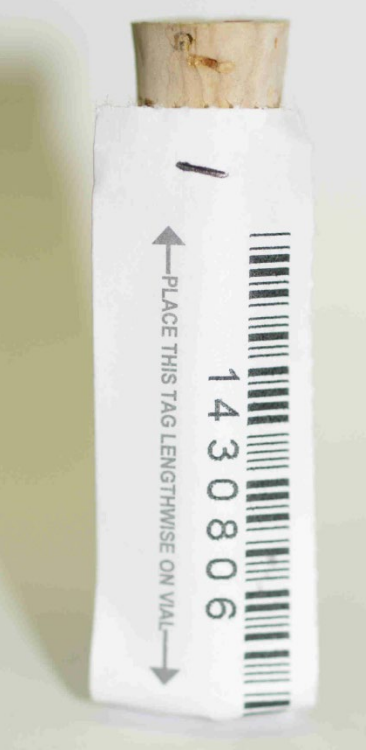


Liquefied mango overgrown with secondary fungi.

Sample Preparation Basics

- If using a vial, properly affix PDR labels to sample vials such that PDR numbers are clearly visible along the length of the vials and not over the vial and lid.

CORRECT



- PDR # on vial, not on lid
- Label lengthwise on vial

INCORRECT



PDR # on lid, not vial



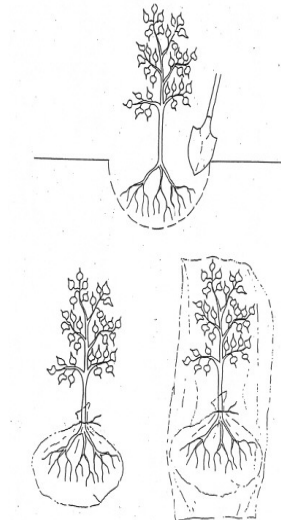
Sticky tape over lid



Label wrapped around vial

Sample Preparation & Submission

- Submitting Entire Plants
 - Dig up as much of the root mass as possible.
 - Wrap the root ball separately in a plastic bag and tie it off to keep leaves free of dirt
 - Next wrap the entire plant, including the bagged root ball, in a large plastic bag.
- Submitting Twigs & Branches
 - Wrap in newspaper, place in plastic bag.
- Submitting Leaves & Flowers
 - Press between DRY paper towels, or newspaper, and cardboard to absorb moisture; Place entire sample in plastic bag.
- Submitting Fruits
 - Wrap in newspaper; place in plastic bag
- Ship as quickly as possible. Keep samples refrigerated prior to shipping.



Sample Preparation & Submission

Completing a PDR for sample submission.

Important Guidelines – Plant Pathology

- List host plant.
- List symptoms and parts of plant affected.
- List growing conditions if applicable.

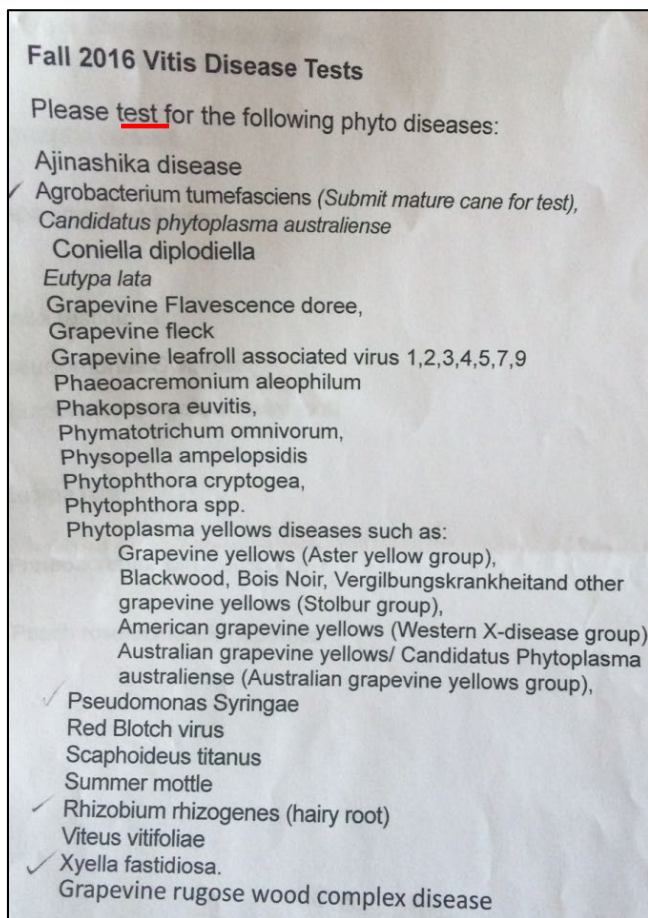


Sample Submission to PPDC – PDR Basics

- Enter PDR information electronically into all relevant fields.
- Submit a PDR hard copy with specimen(s) as part of the “sample”.
- List all host plant data whenever possible on the PDR.
- List the origin of the specimens. This is particularly helpful for samples originating outside of California.
- List the suspect pest or plant disease, if known, to identify in the “suspect” field on the PDR.
- Always indicate the Program Code (e.g., QPHYT)
- Provide any additional information that you think is important in the remarks section. This may include what part of the plant is affected, the type of symptoms seen, distribution or occurrence, and when plant began showing symptoms.
- Feel free to include photos with the PDR, if you think they could be useful. Examples may include the site, soil or symptoms of the entire tree or plant.
- For Service Samples, **ALWAYS** indicate “Service Sample (99)” for the Activity Code.
- For Service Samples, **ALWAYS** fill in the Billing Address in the fields for “Quarantine shipper/broker”



- If submitting a PQ service sample with special instructions, please be sure to include a list of pathogens and state whether they **must** be “tested”. If testing is not specifically requested, samples will be examined visually and then tested **only** if symptoms are seen.
- A specific list is required for PQ testing beyond the normal pathogens and diseases. The lab doesn’t maintain lists for the various countries, so one must be submitted with each PDR. (See example).
- Make sure it is the right season for testing. Some plant pathogens are only detectable during certain times of the year.
- If you are unsure of the test that needs to be performed or whether we are able to test for a specific pathogen, please contact the lab prior to submitting the sample.



Sample Submission to PPDC - PDR Specifics

- The following PDR example form will walk you through the relevant fields that should be included when completing a PDR slip for a sample submission to the PPDC Plant Pathology Laboratory.
- Properly completed PDR slips are essential to providing you with an accurate and timely identification for the plant pest or disease you are submitting.
- Provide as much relevant information as possible. The more information that is provided the higher the likelihood of a specific identification. The less information the less likelihood of receiving a specific identification.
- Please be sure to provide us with the appropriate contact information for how you want to receive the identification.
- If you are submitting a service sample, please provide us with the correct billing information in the “Quarantine shipper/broker” fields for invoicing purposes.

Plant Pathology Laboratory

STATE OF CALIFORNIA
DEPARTMENT OF FOOD AND AGRICULTURE
PLANT HEALTH AND
PEST PREVENTION SERVICES

PEST AND DAMAGE RECORD
65-020 (11/2005)

PDR NUMBER [PDR number (auto-generated)]

Date collected [Date, time, and check PLANT PATH lab]

Lab ENTO PLANT PATH NEMA
 SEED BOTANY VERT

NOR Number:

Number of samples: [Number of samples]

Collector [Collector and affiliation]

Affiliation F S C E U O Describe other

Quarantine shipper/broker

Name

Address

City State/Country Zip code

Phone Fax Latitude Longitude

E-mail

Quarantine origin (where host grown)

City County State/Country Zip code

Shipment size (include units) Program License plate License state Tail/ship number

Carrier (ground/air/maritime) Business name Flight number

Submitter remarks [This is a critical field! Please indicate any additional information here.]

General or Plant Pathology

Number of plants acres involved:

Number Percent of plants affected:

Plant distribution: Limited Scattered Widespread Eradicated

Plant parts affected

Bark Bulbs or corms Leaves, upper surface
 Blossoms Fruit or nuts Petiole Stem
 Branches, large Growing tips Rootlets Trunk
 Branches, terminal Large roots Seeds Tubers
 Buds Leaves, lower surface

Plant symptoms

Limited General

Canker Gumming Malformation Slow decline
 Die back Internal discoloration Marginal burn Stunting
 Fruit rot Leaf fall Root rot Sudden collapse
 Fruit spot Leaf mottling Rough bark Wilting
 Galls Leaf spot Shot hole Yellowing

Determination [Leave this BLANK]

Rating

Determined by: Date:

Host/crop name

Common name Type (plants, fruit, seeds)

Scientific name Quantity Units

Variety Container size and units

Nema field block: commercial foundation increase

PDR NUMBER

County code (for sample)

Activity code (for sample).
SERVICE SAMPLES MUST USE CODE 99

Situation code (for sample)

All relevant information for sample origin

Destination country

Where product grown

Shipment size, if applicable.

This is a critical field! Please indicate any additional information here.

If particular suspect, or a particular test is necessary, indicate here

If you want to receive the identification, this must be filled out properly

Host information – VERY important!

“RUSH” if a true Rush

Number of samples

Collector and affiliation

This is a critical field! SERVICE SAMPLES MUST indicate the BILLING ADDRESS in these fields

INDICATE PROPER PROGRAM CODE
- For example, if a QPHYT sample is not properly indicated, it would be treated as a non-phyto sample

Plant Pathology: Fill in relevant information for plant parts affected and symptoms

Leave this BLANK

Sample Submission to PPDC - Sending a Parcel

- Use plenty of shipping peanuts (not shredded paper) or other packing material around the sample to adequately buffer the vial/container. Use at least 1-2" of packing material around all sides of sample container.

- Be sure to have the complete address of lab on shipping label.

CDFA - Plant Pest Diagnostics Center

c/o Plant Pathology Laboratory

3294 Meadowview Rd.

Sacramento, CA 95832



- Seal shipping box securely with packing tape to ensure the parcel remains completely closed in transit.
- Always use a box to send samples through the mail. Glass vials in envelopes tend to be crushed along with the sample inside them.
- Send samples early in the week. Samples sent later may sit at post office over a weekend. Hold late samples in the refrigerator and send on Monday.

*** Assume a parcel will have a rough ride to the lab and package the sample to survive drops and bumps along the way.

Sample Submission Checklist

1. Sample collected and prepared using specific lab guidelines for each of the 5 different laboratories.
2. PDR completed with all relevant and necessary information (host, origin, etc.), and submitted along with corresponding sample.
3. Sample packaged according to safe shipment guidelines. All sample vials or bags clearly labelled with corresponding PDR numbers.
4. Sample addressed and sent to appropriate PPDB lab.
5. If any problems arise, inform appropriate on-site supervisor or call one of the designated lab contacts.



PPDB Designated Lab Contact List

Plant Pathology Laboratory

Dr. Suzanne Rooney-Latham (916-262-1130)

Dr. Sebastian Albu (916-738-6723)

Dr. Albre Brown (916-738-6693)

Lucita Kumagai (916-738-6710)

Dr. Tongyan Tian (916-738-6717)

Dr. Yunping Zhang (916-738-6721)



Environmental Program Manager II (Branch Chief)

Dr. Umesh Kodira (916-738-6664)

Environmental Program Manager I (Botany & Entomology)

Dr. Stephen Gaimari (916-738-6671)

Environmental Program Manager I (Nematology, Plant Pathology & Seed Science)

Dr. Cheryl Blomquist (916-738-6707)