

Version: 19.0
Effective date: 24 Feb 2024

SERVICE BOOKLET

PLANT HEALTH LABORATORIES & ADVISORY SERVICES



PLANT HEALTH LABORATORIES & ADVISORY SECTION
NATIONAL PARKS BOARD
ANIMAL & PLANT HEALTH CENTRE, NO. 6 PERAHU ROAD, SINGAPORE 718827
www.nparks.gov.sg

CONTENTS

	Pages
1. Sample Submission Procedures	3-4
2. Test Reports	4
3. Payment Procedures	4
4. Contact Details / Hours of Service & Location Map	5-6
5. Terms of Use of Plant Science and Health Laboratory Services	7-8
6. Laboratory Services	9-10
Plant Pest Diagnosis	9
• Plant Pathogenic Bacteria	
• Plant Pathogenic Fungi	
• Plant Pathogenic Virus / Viroids / Phytoplasmas	
• Insect Pests	
• Plant Parasitic Nematodes	
Physical & Chemical Analysis	9-10
• Soil / Soil Mixes	
Seed Health Testing	10
Phytosanitary Laboratory Examination for Certification (Export)	10

1. Sample Submission Procedures

Selection of Sample for Analysis

Incomplete information or poorly selected specimens may result in an inaccurate diagnosis or inappropriate control recommendation. Badly damaged specimens are often unidentifiable and additional sample request may result in delays. As such, when submitting a sample, please observe the following general guidelines:

Select plant materials that are showing the symptoms you are concerned about. Send several samples showing various stages of the disease, especially the early stage. Place samples into a plastic bag or wrap samples in a newspaper to keep them moist but do not add water. Wrap roots in a second bag to keep the leaves free of soil. In addition, please observe the following specific guidelines for the various categories of samples:

Plant Samples for Disease Diagnosis

Herbaceous Plants: For general decline or dying of plants, send whole plants (if practical) including roots, showing early symptoms. Dig up carefully to include 500 grams of surrounding soil (see guidelines for soil samples below for more details). It is important to keep soil off the foliage.

Tree Wilts: Collect branches or twigs which are actively wilting but not totally dead. Wrap in plastic to retain moisture.

Leaves, Branches, Fleshy Parts: When localised infections such as cankers, leaf spots and rots are involved, send specimens representing early and moderate stages of disease. Press leaves flat between papers. Send entire or small parts of infected branches and twigs to include several centimeters of healthy wood adjacent to the diseased part. Wrap fleshy parts e.g. fruits or vegetables separately in dry paper.

Turf: Turf sample plugs should be around 9 cm in diameter and include the transition area between the diseased and healthy portion of grass. It is best to place root systems separate in another plastic bag. Submit around 500 g of turf sample plugs.

Insect Specimens and Infested Materials for Diagnosis

For insect pest diagnosis, collect several (the more the better) specimens of the insects together with associated plant parts (hosts). Collect all stages of the life cycle if available. Care should be taken to pack insects so that they arrive as complete specimens. If 2 or more species are included in the same package, be sure to separate and label the insects and provide appropriate information on each. Identification is dependent on the quality of sample (s) submitted i.e. identification would not be possible for poorly decomposed samples.

Affected Plant Parts: e.g. leaves, flowers or fruits: Send affected twigs, branches, leaves or flowers with presence of pest related products (webs, bags, frass) together with unaffected plant parts. Place highly mobile pests in a vial with some alcohol (70%) or in separate plastic bags. For fruits, send freshly damaged fruits, wrapped individually in paper.

Tiny and / or Soft-bodied Specimens: e.g. aphids, mites, thrips, caterpillars, spiders: Submit specimens in a small leak proof bottle or vial with 70% alcohol.

Hard-bodied Specimens: e.g. flies, grasshoppers, butterflies and beetles: Submit specimens dry in a crush-proof container. Do not tape insects to paper or place them loose in envelopes.

Soil / Soil Mix samples for Plant Nutrition or Nematode Analysis

For soil, take several sub-samples from the root zone at depth of about 15 to 20 cm, especially from around plants showing similar symptoms of nutrient issues. Mix the sub-samples to form a composite sample for submission. Avoid collecting samples when the soil is extremely dry or wet, or immediately after fertiliser application. Transfer the soil to a clean polythene bag or paper bag and label. For soil mixes, do ensure that the sample taken is representative of the soil mix.

Submit around 500 g of sample (soil or soil mix) in a plastic bag for submission.

Application & Submission of Samples

Customers may fill in FormSG prior to sample submission. You can start submitting new applications via the new NParks M2 AVS eService portal from 12:00 AM on 24 February 2025 at <https://avs-eservices.nparks.gov.sg/eservices>.

You will receive a confirmation email after submitting the FormSG. Please proceed to the Animal and Plant Health Centre (APHC) together with the samples and the response ID / email received, for completing the sample submission and fee payment. If you are unable to submit immediately, keep the samples cool (refrigerated at 5 to 10°C) prior to submission.

Please read the terms of use (Page 7-8) before submitting the form.

Sample Submission from Overseas (including Malaysia)

NParks regulates the import of plants and plant products, biological control agents, soil and organic fertilisers in Singapore under the Control of Plants Act (Chapter 57A, Section 49). An import permit fee would be levied for overseas samples by NParks Plant Biosecurity & Phytosanitary Services for each application.

Customer will be billed for the import permit in addition to the lab analysis. When sending plant samples from overseas, International Air Transport Association (IATA) Packaging Instruction 650 should be followed. Further information on regulations covering postal packages can be obtained from IATA.

2. Test Reports

Test results¹ are generally ready within 5 to 14 days depending on test types. One report will be issued for one application. Any amendment request (Project names, address, country/origin of sample, and sample marking) on approval by NParks is chargeable.

Please email: NParks_PSH_Service_Enquiries@nparks.gov.sg to check if the report is ready for collection. The official report will be sent to you based on your preferred method of receipt.

3. Payment Procedures

Modes of payment for laboratory services are as follows:
GIRO / PayNow via UEN No.

¹Explanatory Note: There could be exception cases to the above guidelines, such as cases involving incubation tests which requires > 14 days to complete, cases where further confirmation of results is needed or delay due to unforeseen equipment breakdown. Customers will be informed if results will not be ready within 14 working days.

4. Contact Details / Hours of Service & Location Map

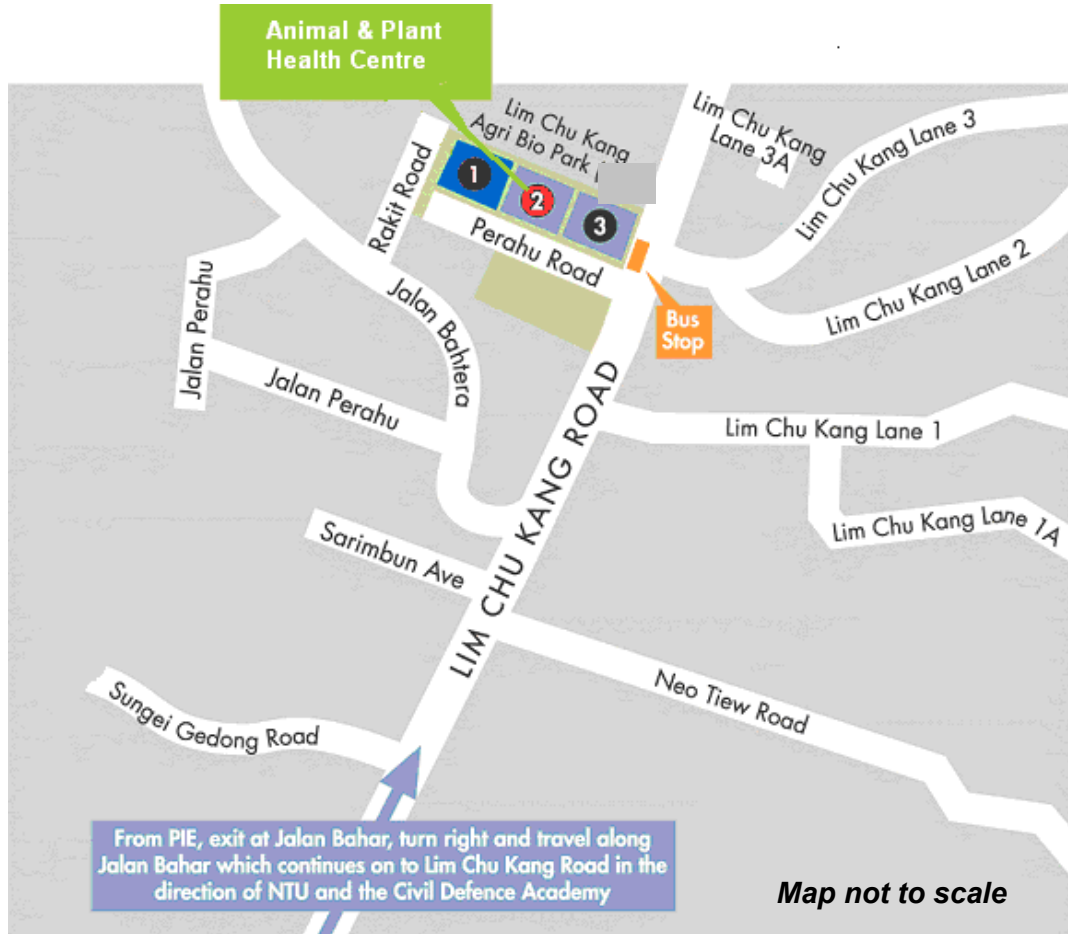
Plant Health Laboratories & Advisory Services
National Parks Board, Animal & Plant Health Centre
6 Perahu Road, Singapore 718827
Email: NParks_PSH_Service_Enquiries@nparks.gov.sg



Hours of Service

	Counter Services	Sample Submission
Mondays to Thursdays	8:30 am to 12:00 pm 2:00 pm to 5:00 pm	8:30 am to 12:00 pm 2:00 pm to 4:30 pm
Fridays	8:30 am to 12:00 pm 2:00 pm to 4:30pm	8:30 am to 12:00 pm 2:00 pm to 4:00pm
New Year's Eve, Chinese New Year's Eve and Christmas Eve	8:30 am to 12:00 pm	8:30 am to 12:00 pm
Saturdays, Sundays and Public Holidays	Closed	Closed
Lunch break - 12:00 pm to 2:00 pm		

ANIMAL & PLANT HEALTH CENTRE (APHC), 6 PERAHU ROAD, SINGAPORE 718827



5. Terms of Use of Plant Science and Health Laboratory Services

By making an online application through FormSG, the Requestor shall be deemed to have agreed to be legally bound by the Terms of Use stated herein. Please proceed only if you agree to the following Terms of Use. NParks reserves the right to amend these terms from time to time at NParks sole discretion.

1. By submitting this online application, the Requestor is deemed as agreeable to provide their personal data to NParks. The consent that the Requestor provides for the collection, use and disclosure of his personal data will remain valid until such time that it is withdrawn by the Requestor in writing. Please refer to NParks' Privacy Statement for collection, use and disclosure of personal data on NParks website: <https://www.nparks.gov.sg>.
2. Any information provided or created during the performance of laboratory activities will be kept confidential unless required by law or authorised by contractual arrangements to release such confidential information. The Requestor will be informed in advance by the laboratory if the information provided or created intends to be placed in the public domain.
3. Upon successful on-line application, an acknowledgement email will be generated. Please submit the sample(s), together with the email / Response ID to the Animal & Plant Health Centre (APHC), 6 Perahu Road, Singapore 718827 within 14 days after registration. APHC counter operation hours: Monday - Thursday: 8.30am to 12:00pm, 2:00pm-5:00pm and Friday: 8.30am to 12:00pm, 2:00pm-4:30pm. Closed on Saturdays, Sundays, and Public Holidays.

6. Sample Submission

Please refer to sample submission procedures on pages 3 & 4 of this booklet.

- a. NParks accept no liability for loss or damage to samples submitted for laboratory examination or any losses or claims by the Requestor, whatsoever and howsoever arising in connection with the tests conducted.
 - Destructive examination/testing of the sample may be required.
 - All samples (whole or partial) and derivatives including the containers / packaging materials used and submitted for testing are the sole property of NParks and will not be returned to the Requestor unless specifically requested, subject to the nature of testing (destructive) and agreement of NParks at the time of submission.
 - The Requestor should make his/her own arrangement to collect the sample/container/packaging material after the testing.
- b. Testing is dependent on the quantity and quality of the sample submitted. A sample may be rejected if it is found unsuitable, improperly collected, stored, packaged, transported, or labelled, at the discretion of NParks. The Requestor will be notified accordingly and if re-sampling is required.
- c. Under circumstances where a sample is deemed less than the optimal standard for the requirements of the test and there are valid difficulties in obtaining another sample, written Instructions must be given by the Requestor for NParks to proceed with testing. In such event, the condition of the sample will be reflected in the final Laboratory Report and will include information as to the extent to which the test result or its interpretation was likely to have been affected by the quality of the sample tested, and that testing on such a sub-optimal sample was carried out at the Requestor's request.
- d. Amendments (NRIC, UEN, Name, Company name, address, sample name, sample type, inclusion of additional tests) and cancellation of tests / application will not be allowed once the laboratory has commenced sample processing notwithstanding the application and sample acknowledgment by NParks during sample submission. The requestor shall remain liable for the charges payable in connection with the testing if cancellation of tests or application is requested. Approval from NParks is required for any amendment request for changes to Project names, address, country/origin of sample, and sample marking.

7. Test Report

One Laboratory Report will be issued to the Requestor for all samples submitted under one application within 7 – 14 days upon payment.

Note: Due to the nature of certain test methods, some tests may take more than 14 days to complete. Please refer to NParks website (<https://www.nparks.gov.sg>) for information. In case of delay in testing, the customer will be notified in advance.

Amendment to the Laboratory Report will not be allowed once Laboratory Report has been issued to the Requestor. Approval from NParks is required before any Laboratory Report can be reproduced in full.

Where reference is made to the Requestor or the tests done in relation to the sample provided, by NParks in any of its materials or publications, such mention shall not constitute an endorsement for the Requestor or its product (s) by NParks. To avoid doubt, NParks will not provide any recommendations or endorsements on any product tested.

Any unauthorised reproduction or abuse of the NParks Laboratory Report shall constitute an offence under Section 27 (1) and (2) of the NParks Act & subject to prosecution. The mention of tradename (s) is NOT an endorsement for the product(s) by NParks. All reports are proprietary to the Requestor. NParks will not release any information from a report without written authorisation from the Requestor.

8. Charges

The laboratory testing is chargeable. The cost will be based on the number of samples and tests requested. For details of cost of tests, please refer details given on pages 9 - 10 of this booklet. Total cost of testing will be made known to you upon your submission of samples to the Animal & Plant Health Centre, No 6 Perahu Road, Singapore 718827.

9. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the Republic of Singapore. The parties irrevocably agree to submit to the jurisdiction of the Courts of the Republic of Singapore.

S/N	Sample Type	Tests	Cost (+ GST)	Est. TAT*	Remarks
PLANT PEST DIAGNOSIS / IDENTIFICATION					
1	Plant sample	Bacteria Disease Diagnosis	\$28.35 per test	7-14 days	\$13.65 per test from 4th test onwards for same pest type. Time taken for diagnosis is dependent on quality of sample submitted & rate of growth of isolated pathogenic bacteria.
2	Plant sample	Fungus Disease Diagnosis	\$28.35 per test	5-14 days	\$13.65 per test from 4th test onwards for same pest type. Time taken for diagnosis is dependent on quality of sample submitted & rate of growth of isolated pathogenic fungi.
3	Plant sample	Virus Disease Diagnosis (By ELISA)	\$28.35 per test	5-7 days	\$13.65 per test from 4th test onwards for same pest type.
4	Plant sample	Virus/Viroid/Phytoplasma Disease Diagnosis	\$68.25 per test	5-7 days	
5	Plant sample/ insect specimen	Insect or Arthropod Pest Diagnosis.	\$28.35 per test	5-7 days	\$13.65 per test from 4th test onwards for same pest type. Time taken for diagnosis may take longer, i.e., weeks if rearing is required for immature stages of insect (i.e., larva or pupa) to be identified.
6	Insect specimen	Insect or Arthropod Pest Molecular Diagnosis.	\$68.25 per test	5-7 days	
7	Plant or soil sample	Nematode Disease Diagnosis	\$28.35 per test	5-7 days	\$13.65 per test from 4th test onwards for same pest type. Submit 500g soil around affected roots / 200-300g of affected plant roots/stem/leaves.
PHYSICAL & CHEMICAL ANALYSIS					
8	Soil or soil mix	Bulk density or moisture content	\$15.75 per test	7-14 days	Bulk density is only offered for soil mix (disturbed sample).
9	Soil or soil mix	Particle size or soil texture	\$42.00 per test	7-14 days	\$37.80 per test from 4th test onwards for same test. Soil texture can be performed only on mineral soil and not on soil mixes.
10	Soil or soil mix	pH or Electrical Conductivity (EC)	\$10.50 per test	7-14 days	\$9.45 per test from 6th test onwards for same test.
11	Soil or soil mix	Each analysis—P, K, Ca, Mg, Na, B, Fe, Cu, Mn, Zn, Organic matter	\$28.35 per test	7-14 days	\$23.10 per test from 4th test onwards for same test.

* Estimated TAT = Estimated Turnaround Time for testing and issuance of report. The actual TAT may vary. Please check during submission.

SEED HEALTH TESTING					
12	Seeds	Seed Purity test	\$50.00 per test	3-5 days	Sample size varies. Please call to check.
LABORATORY EXAMINATION FOR EXPORT HEALTH CERTIFICATION (PHYTOSANITARY CERTIFICATION)					
13	Plant & plant products	Laboratory examination for plant pests (bacteria, insects, fungi, nematodes and viruses (by ELISA) to certify freedom from stipulated pests for the purpose of issuance of Phytosanitary certificate for export.	\$50.00 per consignment per pest type.	5-14 days	This service is strictly for export health certification. Samples should be submitted through the Plant Biosecurity & Phytosanitary Services (PBPS) Section, NParks for the issuance of phytosanitary certificate only. Please contact 63165166/5184 for sample inspection and collection for laboratory test.

* Estimated TAT = Estimated Turnaround Time for testing and issuance of report. The actual TAT may vary. Please check during submission.

This page is intentionally left blank.