



# International Plant Sentinel Network



Submitting Physical Samples  
for Diagnostic Purposes

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# Introduction

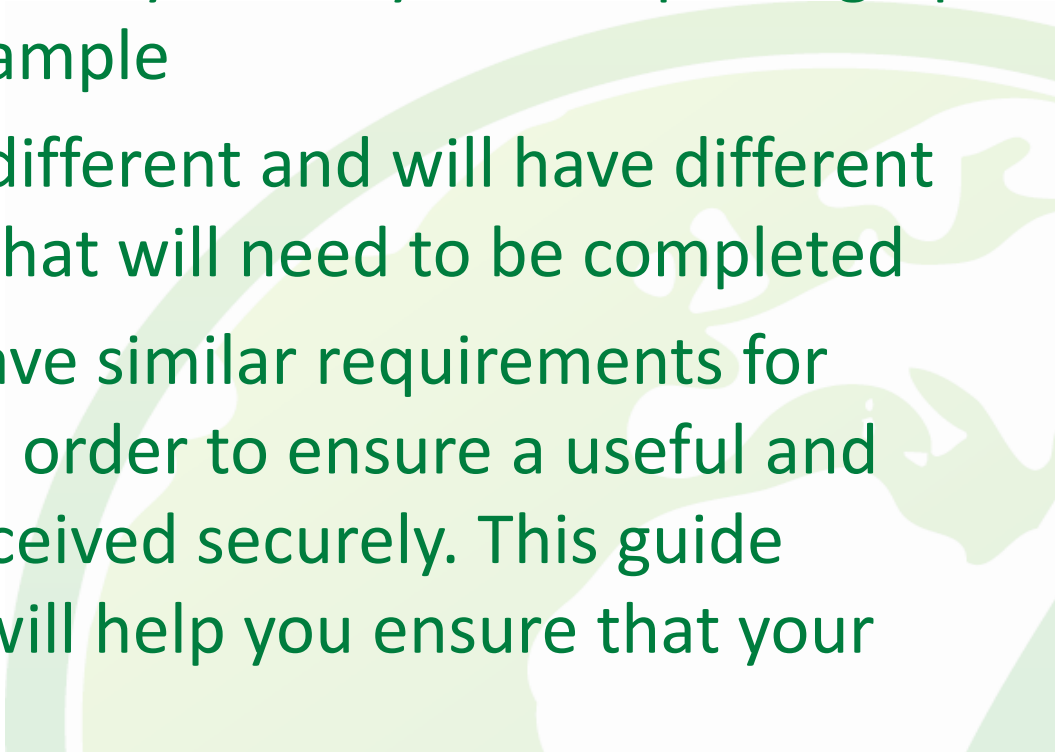
Where necessary you may be asked, or wish, to submit a physical sample to a diagnostic laboratory for further investigation

To ensure that rigorous testing can be completed on samples, it is important that they arrive at the laboratory in good condition

How samples are stored and packaged will directly effect the likelihood of them arriving in good condition

This guide provides help on how to submit a diagnostic sample and how measures change dependent on what type of material is being sent

# Diagnostic Laboratory

- Contact your local diagnostic laboratory before sending a sample, it may be they ask for photographs before a physical sample
  - Each laboratory is different and will have different submission forms that will need to be completed
  - However, all will have similar requirements for physical samples in order to ensure a useful and viable sample is received securely. This guide provides tips that will help you ensure that your sample is useable.
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# Sample Choice



Samples must contain the right material, representative of damage;

- An entire plant or several plants if practical
- Samples should preferably include material with a range of symptoms and levels of damage
- For symptoms on leaves or shoots which show general discolouration or dieback it is important to send roots, when possible and surrounding soil as this could suggest root damage
- For suspected disease include the boundary (referred to as the **leading edge**) between healthy and diseased tissue (as pictured opposite), include healthy material if possible for comparison
- Dead plants are unlikely to provide any information

# Paperwork...

ALWAYS include text with samples detailing:

- Who – sent the sample, contact info
- What – is the host, your main concern, the main symptoms
- When – were the symptoms first observed
- Where – vague description of surrounding environment including whether any other surrounding species show any symptoms
- How – has the site been treated, has there been any dramatic changes in management; e.g. use of pesticides, fertilisers etc.

**Enclose with sample in a separate plastic bag/wallet**



Your Details		<small>(For internal use only)</small>	
Name:		Your Ref:	
Company:		Purchase order no:	
Address:		Name & Address for receipt (if different):	
Postcode:		VAT no:	
Tel:	<input type="checkbox"/>	Fax:	<input type="checkbox"/>
Mobile:	<input type="checkbox"/>	Email:	<input type="checkbox"/>
<small>Would you like to register for SanTreat? <input type="checkbox"/> Our free and secure on-line sample tracking system, giving you &amp; us access to your sample information. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I've purchased a method of control</small>			
<b>The Sample</b> - To help us with our diagnosis, please try and fill in as much information as possible.			
Plant genus, species and variety (or seed/parent material full typed)			
Propagation (planting method (e.g. seeds, cutting etc...))	Age of plants or sowing date:		
Are the plants grown outside, under cover, or in a stored product?			
Which pesticides / herbicides have been used and when?			
<b>The Problem</b>			
What symptoms have you observed? (e.g. leaf roll, wilting, etc)			
What do you think the cause might be?	Bacteria <input type="checkbox"/> Fungi <input type="checkbox"/> Pest <input type="checkbox"/> Nematode <input type="checkbox"/> Virus <input type="checkbox"/>		
Distribution of symptoms & part of plant affected (fruit, stems etc)?	% of plants affected:		
When was the problem first seen?			
If you would like a specific test from our Price list please state test here:			
Other information: e.g. shipping history and types of neighbouring plants, slope, temperature, humidity, irrigation, reporting			
<small>I hereby authorise Ferns to carry out diagnostic work on this sample and agree to Ferns' Standard Terms and Conditions. Unsigned forms may not be processed</small>			
Signed:		Date:	

# Packaging – Whole Plants

- Use plastic bags to keep (moist) soil on roots and away from the rest of the plant – growing media can contaminate a sample and cause additional problems
- Place the whole plant in a second plastic bag and inflate slightly before sealing
- Use crush-proof packaging to minimise damage caused during transit





# Packaging - Parts of Plants

- Leaves and shoots
  - Suspected viruses; plastic bag, slightly inflate and seal
  - Other; wrap in slightly moist absorbent paper, place in plastic bag, slightly inflate and seal
- Fleshy items (fruit, vegetables, bulbs etc.)
  - Wrap in dry, absorbent paper
  - If rotting wrap items individually
  - Place in a plastic bag, slightly inflate and seal





# Packaging - Samples

- Invertebrate Pest

- Can be preserved in alcohol
- Sealed in shatter proof container



- Soil samples (for suspected nematode problems)

- Place about 500g of soil in a strong plastic bag and seal
- Do not drop; nematodes are very sensitive and die if they are shocked which means they cannot be identified



# Key Rules

- Send samples representative of the problem
- Package securely, use sturdy materials, try to minimise, as much as possible, the risk of contamination by soil
- Label packages clearly, inside and out
- Enclose paperwork in a separate plastic bag or wallet
- Samples should be dispatched either by express courier service or first-class post, sending samples over the weekend or a bank holiday should be avoided



# For more info...

<http://fera.co.uk/plantClinic/index.cfm>

[http://www.npdn.org/first detector training modules](http://www.npdn.org/first_detector_training_modules)



[www.plantsentinel.org](http://www.plantsentinel.org)

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# International Plant Sentinel Network

An early-warning system for future pest threats

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*Plants for the Planet*