

How to Submit Plant Specimens for Disease Diagnosis

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The Department of Primary Industry Fisheries and Mines provides a plant disease diagnostic service through its Plant Pathology laboratories at Berrimah Farm near Darwin and at Katherine Research Station.

A successful diagnosis of plant diseases depends largely on the suitability and condition of the material submitted. When sending plant material for disease diagnosis, the following points should be kept in mind:

Send specimens that adequately represent the symptoms:

- If the disease is obviously localised to a particular plant part, for example leaf spot, then only that part needs to be sent.
- Symptoms that are more general, for example wilt, dieback or chlorosis (yellowing of foliage) often indicate disease of the root system or lower stem or trunk. In these cases the whole plant should be sent. If this is not possible because the plant is too big or cannot be sacrificed, a sample of the roots and possibly the lower stem should be sent.
- A sample of soil (about 500 g) from the feeder root zone could be useful if root disease (including nematode infestation) is suspected.
- If possible include examples of different stages of severity of symptoms in the sample. Ideally you should include a range from first sign to severe and some healthy material for comparison.

Pack the material so as to minimise deterioration:

- Ideally specimens should be sent in a cold box, for example in a polystyrene box with ice or a cold "brick". If sent this way the plant material can be packed in plastic bags provided they will arrive at the laboratory while still cold. This method is particularly desirable if a virus disease is suspected, as fresh material is essential for successful diagnosis.
- Where transport is of short duration, for example no more than a few hours, the plant material can be sent in plastic bags without cooling although **hot conditions must be avoided**.
- If transport time is long, for example when material is sent by post, plastic bags should be avoided as plant material may "sweat" and decompose as a result of fungal and bacterial action. Packaging in slightly moist paper towel will give better results.
- Some types of specimens can be pressed and dried between sheets of newspaper and sent flat, although not all diseases can be successfully identified from dried material. This method may be successful with certain types of material such as leaves, twigs or small flowers.
- Avoid sending specimens so that they arrive on a Friday or are held up in transit over a weekend. These problems can be avoided by sending specimens as close to the start of the week as possible.



Supply information about the crop and the problem:

- The name of the plant including the variety and scientific name if known.
- Description of the symptoms observed in the field.
- Indicate when the symptoms were first seen.
- What proportion of the crop is affected and how the symptoms are distributed in the crop, for example whether randomly, in patches or progressing along rows.
- An estimate of the effect the disease is having on production.
- Soil conditions – whether waterlogged, dry or normal.
- What fertilisers and other chemicals have been applied and when.
- Method of irrigation – whether overhead or otherwise.

Where to send:

Specimens may be delivered to:

Plant Pathology
Berrimah Agricultural Laboratory
Berrimah Farm
Makagon Road
Berrimah NT

Plant Pathology
Katherine Research Station
South Stuart Highway
Katherine NT

Or posted to:

Plant Pathology
Berrimah Agricultural Laboratory
GPO Box 3000
Darwin NT 0801

Plant Pathology
Katherine Research Station
PO Box 1346
Katherine NT 0851

For enquires:

Telephone 8999 2265 (Darwin)
Facsimile 8999 2312 (Darwin)

Telephone 8973 9739 (Katherine)
Facsimile 8973 9777 (Katherine)

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