

How to bait water sources/drains for *Phytophthora* & *Pythium* spp. with Pocket Diagnostic test kits

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The Pocket Diagnostic™ Test Kits are capable of detecting plant pathogens from plant material used as a bait in water sources and irrigation systems using similar baiting processes to those required for laboratory based diagnoses.

Baiting refers to a technique used to detect phytophthora or pythium in water, growing media or soil. Leaves of susceptible plant host varieties (e.g. Avocado, Azalea, Umbrella Tree or Citrus) are used as baits. If phytophthora and pythium zoospores are produced/present these are likely to infect and begin to rot the leaves.

Test procedure for baiting samples from water sources and irrigation systems

Materials & Equipment

1. Vegetative bait – leaves of host material (e.g. Avocado, Azalea, Umbrella Tree or Citrus)
2. 1% sodium hypochlorite (baby bottle solution) & distilled water
3. New plastic fork(s)
4. Nylon stocking(s)

Baiting Process

1. Surface sterilise the chosen plant leaves (bait) for 2 minutes in 1% sodium hypochlorite (baby bottle solution), then rinse well with distilled water.
2. Heavily perforate (holes) leaves with a **new plastic** fork. Place the leaves in a nylon stocking.
3. **Water sources/drains** are tested by suspending the stocking, in the water/drain, for a period of 48 – 72 hours. In dams, suspend bait above the foot valve.

To test **irrigation water** in line, open a tap in line and allow a continuous flow of water to fill two thirds of a large rubbish bin, fitted with a new bin liner. Place the bin in a cool, dry place and suspend the stocking (with bait) for a period of 48 – 72 hours. Allow overflow water to flow into a drain and into surface storage (e.g. dam).

4. The baits (plant material) are removed from the stocking, rinsed in distilled water and the leaf perforations (holes) are dissected (intact) to form a sample for testing as per the requirements of the Pocket Diagnostic™ Test Kits.

Further information and ordering

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For further information, price list and order form visit www.pocketdiagnostickits.com.au or contact John McDonald, Industry Development Manager, email: nido@ngiq.asn.au or phone 07 3277 7900
Refer to: NIASA Best Management Practice Guidelines, Appendix 2, pp a10 for more information.

How to bait growing media and soil for *Phytophthora* & *Pythium* spp. with Pocket Diagnostic test kits

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The Pocket Diagnostic™ Test Kits are capable of detecting plant pathogens from plant material used as a bait in diluted growing media and soil using similar baiting processes to those required for laboratory based diagnoses.

Baiting refers to a technique used to detect phytophthora or pythium in growing media, soil or water. Leaves of susceptible plant host varieties (e.g. Avocado, Azalea, Umbrella Tree or Citrus) are used as baits. If phytophthora and pythium zoospores are produced/present in a dilution these are likely to infect and begin to rot the leaves.

Test procedure for baiting samples of growing media and soil

Materials & Equipment

1. Vegetative bait – leaves of host material (e.g. Avocado, Azalea, Umbrella Tree or Citrus)
2. 1% sodium hypochlorite (baby bottle solution) & distilled water
3. A clean graduated container marked at 50mls & 250mls plus a container larger than 300mls
4. New plastic fork(s)
5. Nylon stocking(s)

Baiting Process

1. In a new/clean container (larger than 300mls) place one part of growing media or soil to five parts distilled water (e.g. approximately 50mls of growing media/soil with 250mls distilled water) is best for disease production.
2. Surface sterilise the chosen plant leaves (bait) for 2 minutes in 1% sodium hypochlorite (baby bottle solution), then rinse well with distilled water.
3. Heavily perforate (holes) leaves with a **new plastic** fork and place in a stocking suspended and floating below the surface of the prepared diluted growing media or soil sample. The suspended plant tissue acts as the host material that the fungus infects.
4. Leave the cups on a bench at between 22 and 28 ° C for 48 – 72 hours out of direct sunlight.
5. The baits (plant material) are removed from the cups, rinsed in distilled water and the leaf perforations (holes) are dissected (intact) to form a sample for Pocket Diagnostic™ testing.

Further information and ordering

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