

Sampling of Spider Mites

Protocol 1 – Infested Leaves

Objective:

To collect and prepare leaf samples visibly infested with spider mites for later examination or laboratory processing.

Materials

- Clean paper envelopes or plastic bags (zip-lock)
- Hand lens (optional, for easier viewing)
- Permanent marker and labels
- Cooler box with ice packs (for transport, optional)

Procedure

1. **Select plants:** Identify plants showing typical spider mite symptoms — speckling, chlorosis, bronzing, or webbing on leaves.
2. **Choose leaves:** Select 3–5 leaves per plant, preferably from different positions (top, middle, lower canopy).
3. **Collect leaves:** Gently pull leaves with your fingertips to avoid dislodging mites.
4. **Inspect briefly:** Use a hand lens, if available, to confirm the presence of mites.
5. **Package samples:**
 - Place each sample (per plant or per site) in a labeled paper envelope or plastic bag.
 - Label with sample ID, date, location, host plant species, and collector name.
6. **Storage/Transport:**
 - Keep samples cool and shaded during transport (avoid direct sunlight).
 - If processing will happen within 24 hours, store the sample at 4 °C or include ice packs in the shipping box; otherwise, continue with preservation (Protocol 2).

Protocol 2 – Preservation in Ethanol

Objective:

To preserve spider mite specimens collected from leaves for molecular analysis.

Materials

- Sterile tubes of 1.5–2 mL (preferred), or small, capped containers up to 50 mL.
- 70–100% grade ethanol
- Fine brush
- Labeling tape or waterproof marker
- Optional: dissecting microscope

Procedure

1. **Transfer mites:**
 - Under a stereomicroscope or with a hand lens, gently remove mites from leaves using a fine brush.
 - Place them directly into a labeled tube containing ethanol.
 2. **Label samples clearly:**
 - Include sample ID, date, host plant, and collection site.
 3. **Storage:**
 - Store tubes at –20 °C for long-term preservation (preferred) or 4 °C for short-term storage.
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