

Appendix 2.

How to Sample Insects, Nematodes, Diseases and Soil

Adapted from EDIS by J.L. Gillett

Collection of Insect Pests

There are some basic equipment and materials that are used for the collection of samples. It's a good idea to record facts about the specimens when collected. You can put more than one specimen of its kind in the vial, particularly if it is a pest which can be obtained in high numbers in a single incidence. Don't jam-pack the insects into the vial. If the specimen is mutilated, find a better sample.

Preservation

After the insects are collected, they must be quickly killed to avoid damage. Most insects can be killed by placing them in the vial containing 70% alcohol (common rubbing alcohol). Beetles, true bugs, bees, wasps, and ants can be treated this way. Some insects like moths can be identified best from dry specimens. Kill them by freezing. Carefully placing dead moths or butterflies within a layer of wax paper will protect the wings. Galls and damaged plant material can be carefully wrapped in soft tissue. Do not apply scotch tape directly to a specimen or crush the insect in an envelope.

Some "Do's and Don'ts" in insect sample collection

- Do give information about the specimen and host. It is important to know where the specimen was collected and on what host (the name of plant), under what conditions, the number involved and the nature of the injury. Additional information is always welcome and often serves as the main criterion for selection for the proper control measure.
- Put specimens in proper container, alcohol, pill box, etc.
- Do indicate in writing what chemicals or treatments, if any, were used on the affected plant.
- Don't put specimens loose in an envelope.

After collecting good samples, do not ruin them by allowing them to bake in the sun or in a car prior to submission.

The Insect Identification Form (SR022) is the form that must accompany samples submitted to the UF/IFAS Insect Identification Service.

The Insect Identification Form is available in printable form through the EDIS Website. The form gives details about how to collect samples and what analyses will be performed. Please see Insect Identification Service (SR010) for more information.

The Insect Identification Form and more information can be found in the original publication: <http://edis.ifas.ufl.edu/SR022>.

How to Collect a Sample for Nematode Analysis

- Collect soil from 20 locations.
- Samples should be taken 3 to 4 inches deep.
- A "T" type sampling tube is best for collecting nematode samples. A small trowel or other device may be used if necessary. If the sample is being taken before planting, collect samples in a zig-zag pattern across the area.
- If an area is producing unhealthy plants, collect samples from around the borders of the affected area. Collect samples where the plants are sick, but not dead.
- If there are a number of affected areas take a few samples from the border of several of them until you have the required 20.
- Put all the soil from each area into a single plastic bag.

After planting:

- Often a nematode assay is needed to determine if nematodes are causing a plant to get sick.
- For this type of sample both soil and roots are required! Dig soil and roots from around the drip line of the plant.
- Sample depth depends on the size of the plant.
 - For most plants 6 inches deep is adequate.
- Do not include the top 1 inch of soil.
- If multiple plants are affected collect some soil and roots from several plants.
- Place the soil and roots together in the same plastic bag.
- A minimum of 1 pint of soil and 1 to 2 cups of roots are required.
- For small plants- entire plants, with the soil around their roots, can be submitted.

The Nematode Assay Form (SR023) is the form that must accompany samples submitted to the UF/IFAS Nematode Assay Laboratory. This service is available to the public for a fee of \$12.00 per sample. Florida Cooperative Extension personnel are not charged for samples when "trouble-shooting" plant growth problems.

The Nematode Assay Form is available in printable form through the EDIS Web site. The form gives details about how to collect samples and what analyses will be performed. Please see Nematode Assay Laboratory (SR011) for more information.

The Nematode Assay Form and more information can be found in the original publication found at: <http://edis.ifas.ufl.edu/SR011>.

