

Insect Identification Sampling Guidelines

Entomologists working with the Plant and Pest Diagnostic Clinic (PPDC) identify insect and arthropod pests of plants, those found in and around structures and properly submitted parasites. Once the insects are identified, crop commodity or other specialists will provide management recommendations. This procedure adds some time to the reporting process. If the client includes an email address, the identification will be sent as a preliminary report and the specialist's report will follow. Otherwise reports will be mailed upon completion.

To use our services, obtain a copy of the Insect Identification Form from the PPDC website at www.clemson.edu/plantclinic or from your local county extension office. When collecting a sample, make note of the population present and if there are many of the same insect present, include more than one insect in the sample. If more than one type is present, each should be submitted as a separate sample. Complete the form, providing all information requested.

Due to sample quality, biosecurity and health issues, insects submitted to the Clinic should be killed before submission. Most insect samples can be placed in a vial or other container filled with alcohol. Either ethanol or isopropyl (rubbing) alcohol (70% solutions) can be used. Ethanol is the better preservative but isn't as readily available for this use. These preservatives allow the insects to be relaxed as they are killed, ensuring that they reach the Clinic in good condition. Be sure to fill the vial to the top to prevent specimen damage due to sloshing. Do not use water or any other liquid. Insects placed in hazardous preservatives, such as formaldehyde, will not be accepted.

Using alcohol is especially important when human parasites, such as fleas, lice or ticks, are submitted, as blood from the person is considered a biohazard. In addition, if clothing, air filters or other such articles were to be submitted, the entomologist performing the identification could be infested. For these reasons, human or animal pests will **only** be accepted by the PPDC in small vials filled with alcohol. If a client suspects human parasites are present but finds no actual insects, he/she should visit a dermatologist and if insects are found, they can be submitted as described above. If the person brings unpreserved insects to a county office, these should be placed in a small vial of alcohol for submission.

Small pests on plants can be submitted live on the affected plant part but must be double bagged for biosecurity reasons. Enclose the plant material, along with some *dry* paper towels as packing material, in a zip-lock plastic bag. Then place that bag in a larger zip-lock bag. Large, fragile insects, such as moths or butterflies, should be killed in a freezer, wrapped gently with tissue paper and submitted in a crush-proof container without alcohol. Package all samples with packing material to prevent crushing.

Larval insects, such as caterpillars, grubs and maggots usually aren't identifiable to genus due to immaturity. Identification to at least the family level will be attempted but cannot be guaranteed. However, management recommendations are often possible even for insects identified to the family level. If identification to genus is needed for scientific reasons, contact the Clinic to request submission of live insects for possible rearing to maturity.

Reporting

Depending on sample load at the time, preliminary replies can be expected from 7 - 10 days following sample receipt in the Clinic. During cooler seasons, replies may come more quickly. All replies are sent via email to clients and also to the affiliated county extension office. Agents included on the form will also receive a copy. If the client has no email address, their report is mailed, even if an agent is also receiving the report via email.