



## SAMPLING

### SAMPLING PRINCIPLES

- A good sample is the best possible representation of the sample area in the required volume.
- In fields with discreet areas of symptomatic plants, sample from the edge of the affected area. Few plant-parasitic nematodes may remain where plant productivity has decreased, while more occur at or ahead of advancing symptoms.
- 5 acres is the maximum area that should be represented by one sample.
- Seal sample bags completely to prevent spillage, contamination, and abrasion.
- Keep samples away from heat and at original moisture content; if adding ice packs for slow transit in hot weather, insulate between sample to prevent sample from freezing. Ship early in the week to avoid weekend delays in transit.

### HOW TO SAMPLE SOIL

- Prepare a composite soil sample from at least 20 locations within the sampling area from the top 12 inches or to the depth of root growth if shallower than 12 inches. Use a soil sampling tube, a trowel, or a shovel.
- Thoroughly mix the sample in a bucket or other large container.
- Take several subsamples from the mixed composite soil sample to obtain about ONE PINT (500 cubic centimeters or one double handful) as the final sample. A surcharge is assessed for excessively large samples.
- Place this final sample in a soil sample bag or heavy plastic bag, such as a quart-size freezer bag. Avoid sandwich bags (too thin). Make sure that any paper bag you use has a waterproof lining. See below for how to label samples.

### HOW TO SAMPLE ROOTS

- Dig subsamples of **FINE absorptive\*** roots from at least 10 locations within the sampling area. Mix subsamples as appropriate.
- Take several subsamples from the composite root sample to obtain about ONE PINT (500 cubic centimeters or one double handful) of root material for the final sample. \*NOTE: Woody portion of roots and mint rhizomes will be discarded during processing so estimate volume by looking at the amount of fine feeder roots.

## SUBMISSION

### LABELING INDIVIDUAL SAMPLES

- Each sample bag requires its own unique label. Soil or plant material in separate bags will be processed as separate samples, unless otherwise noted. If sample bag contains both soil and roots in one bag, indicate on submission form what type of extraction you are requesting- soil, root, or both.
- Plastic bags may be labeled on the outside with waterproof maker. However, waterproof marker may abrade to illegibility during shipment, especially if samples leak soil or moisture. To avoid soil loss and potential label degradation, seal bags completely.
- When using separate paper labels, double-bag each sample in plastic bags and put the label between the two bags. Paper in soil disintegrates.

### INFORMATION TO ACCOMPANY COLLECTIVE SAMPLES

- Include the nematode submission form (backside of this sheet) or equivalent information in shipment with samples.
- Supply your name, address, and phone, as well as site identification, current crop, and cropping history on either a Nematode Sample Submission Form or on another paper. Please indicate if the invoice or a copy of the report is to be sent to another party. One submission form may be used for up to ten samples: use one line on the form for each sample. Enter soil and root samples on separate lines. Front (submission info) side of form may be photocopied). Do not rely on just the exterior mailing or return address label for sample identification.
- Protect paperwork in a separate plastic bag to keep it safe from moisture damage and abrasion.
- Avoid faxing or mailing the form separately from the sample if possible.

### WILL YOU NEED SPECIES IDENTIFICATION?

We report plant-parasitic nematodes by genus (for example, *Pratylenchus* (Root lesion nematode) – or *Meloidogyne* (Root knot nematode) unless species identification is requested. If requested, we report by species (for example, *Pratylenchus penetrans* or *Meloidogyne hapla*) for an additional fee. Species identification may be helpful in assessing existing or potential damage of some plant-parasitic nematode genera because damage levels may vary by both plant and nematode species. However, in many cases species ID provides no additional management value. Please indicate on the submission form if you want species identification. Phone (541) 737-5253 (lab, Nadine Wade) or (541) 737-5243 (Russ Ingham, office) with questions.

## RESULTS AND INVOICE

- Results, invoice, and a copy of the submission form will be mailed to the submitter. Indicate on submission form if the invoice or a copy of the results is to go to another party.
- Results will also be emailed if contact information is provided in the appropriate fields on the submission form.

### HOST RANGE AND DAMAGE LEVEL INFORMATION: NEMATODE TESTING SERVICE WEBSITE

Text documents summarizing many studies of plant-parasitic nematodes by species on plants by species are accessible at <https://bpp.oregonstate.edu/bpp/nematode-testing-service>

## FEES

These fees are based on submission of samples taken according to the guidelines above. Additional fees may be assessed for deviations from these guidelines.

Statutory Authority: ORS 351. Filed and effective 22 June 1976. Revised 1998, 2003, 2004, 2006, 2007, 2010, 2012, 2013, 2015, 2019

- **Soil sample:** extract and count plant parasites by genus: \$55
- **Root sample:** extract and count plant parasites by genus: \$55
- **Combined soil and root sample:** extract and count plant parasites by genus: \$110
- **Foliar nematode extraction \$55; Cyst nematode extraction \$55; Pinewood nematode extraction \$80**
- **Species identification:** \$50 per genus per sample for routine species\*; \$75/hour for others (requires additional research time)
- Inappropriate submissions as explained in instructions on the submission form in print and on the web: minimum of \$10 per sample.
- Other services: Root-knot egg extraction, Seed gall nematode extraction: charge will be negotiated with client prior to service.

\*Routine species identifications include species of plant-pathogenic genera commonly encountered in the Pacific NW quadrant of the United States: *Pratylenchus penetrans*, *P. neglectus*, *P. crenatus*, *P. vulnus*, and *P. thornei*; *Meloidogyne hapla*, *M. chitwoodi* and *M. naasi*; and *Xiphinema americanum*.