Health Research Institute

Soil Sampling Instructions

How to collect, prepare, and ship your soil sample for pesticide testing

Proper sampling is critical to ensure accurate and representative pesticide analysis. Please follow the steps below carefully.

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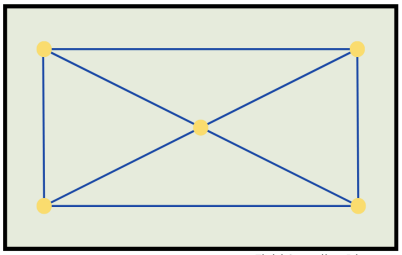
1. Sample Collection

Use a clean shovel or soil probe.

- For small acreage, collect at least 5 soil cores (also called plugs) from across the area of interest. For larger fields, collect about 10 cores per 100 acres, distributed throughout the field.
- Take samples from within the field—not along the edges. Distribute cores to represent the entire area. For larger fields, include extra cores along the lines connecting the five-point sampling grid.
- Each core should be taken straight down to a depth of 6–8 inches to ensure an even vertical profile.
- Avoid collecting soil that is wet or muddy, as this increases drying time. *A processing fee applies for samples that arrive wet.*



Field Sampling Diagram

- Place soil cores into a clean plastic bucket or zip-lock bag as you collect.
- Collect a total of **1 kg of dry soil per test.** This is roughly equal to half to two-thirds of a gallon-sized zip-lock bag when using intact cores.

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2. Soil Homogenization (Drying and Mixing)

You may process your sample at home or request lab homogenization for an added fee of $45.

If processing yourself (self-homogenization):

- **Air-dry** the soil indoors or outdoors under cover, away from direct sunlight and heat. Do not oven-dry.
- Spread the soil on a clean surface (e.g. wax paper, foil, or plastic sheeting). A nearby fan (not blowing directly on the soil) can help speed drying.
- Aim for **<12% moisture content.** Drying typically takes 2–4 days, depending on humidity and soil type. The soil is ready when it feels crumbly and dry, and no longer cool or damp to the touch. *Tip: Squeeze a small handful—if it breaks apart easily and doesn't stick to your fingers, it's dry enough.*
- Break up any remaining clumps and remove any rocks, sticks, or plant material.

- **Grind the soil to a uniform consistency** using the handle of a hammer or similar tool in a clean bucket.
- **Thoroughly mix** the finely ground soil to ensure any pesticide residues are evenly distributed throughout the composite sample.
- From this homogenized soil, select a **200 g sub-sample** to send to the lab.

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3. Sample Amounts & Packaging

For self-homogenization: Send **200 g** of well-mixed, dry soil per sample.

For lab homogenization: Send **1 kg (2.2 lbs)** of raw, unprocessed soil.

For packaging:
- Inner packaging: Place the soil in a zip-lock bag, then seal it inside a second zip-lock bag.
- Labeling: Clearly label each sample (e.g.,*"#8 Back Garden"*).
- Outer container: Place the sealed and labeled samples in a durable and securely closed shipping container (e.g., a cardboard box or a bubble mailer).

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4. Required Forms & Permits

All submissions: Include a completed **Sample Submission Form**.

USDA permits (only if applicable): Most soil samples do not require USDA permits. Additional documentation is required only if shipping from quarantined areas within the U.S. (e.g., fire ants, nematodes, *Phytophthora ramorum*) or from Hawaii, Puerto Rico, U.S. territories, or international locations.

In these cases, a USDA Compliance Agreement (PPQ Form 519) is required. Contact HRI in advance to obtain:

- A copy of the PPQ Form 519; and
- A PPQ Form 550 shipping label (must be printed in color and affixed to the outside of the package)

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5. Shipping Instructions

- Use a trackable shipping service (e.g., USPS, UPS, FedEx).
- Ship to:
  Health Research Institute
  505 Dimick Dr, Suite 111, Fairfield, IA 52556, U.S.A

Kit Orders:
Your kit includes a prepaid USPS return label and shipping envelope. Simply follow the enclosed instructions and drop your package at any USPS location.