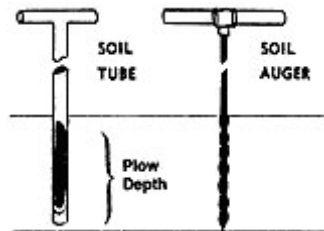


## How to take a soil sample

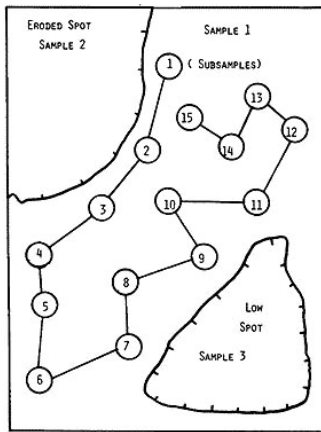
Taking a representative soil sample is needed to determine lime and fertilizer requirements and avoid costly over or under fertilization. Follow the guidelines below to help ensure the best results.

1. Order your soil test supplies (boxes and sample information sheets) by calling 1-800-344-2697 ext. 2172 or via the internet at <http://www.dairyone.com/Forage/OrderSupplies/>
2. Establish a sampling schedule.
  - a. Most soils should be sampled every 2 - 3 years; more often for sandy soils, high value crops or problem areas. To avoid seasonal variation, try to sample around the same time every year for a given field.
3. Use the correct sampling tools to do the job.
  - a. Use tools that are clean and free of rust. Avoid brass or galvanized tools or containers that can contaminate samples with zinc or copper. Stainless steel probes or augers are best because they collect a continuous core through the entire sampling depth with a minimum disturbance of the soil (see Figure 1.). Avoid shovels or trowels.
  - b. Collect samples in a clean plastic bucket or plastic bag. Avoid collecting or shipping wet samples in paper bags or boxes. Wet samples can leach boron out of the paper and contaminate the sample. Air dry samples prior to shipping or ship in a plastic bag.



**Figure 1. Use a stainless steel probe or auger for best results.**

4. Sample at the proper depth based on tillage.
  - a. Moldboard plow – surface to tillage depth (usually 6-8 inches).
  - b. Chisel plow and offset disk – sample before tillage to  $\frac{3}{4}$  of the tillage depth.
  - c. Reduced tillage systems – No Till, Ridge till, Zone Till etc. Two Samples may be required.
    1. Sample to a depth of 6 inches for pH and nutrient content.
    2. A second sample to a depth of 1 inch may be needed to determine if surface applications of nitrogen fertilizer have resulted in an acid surface layer that can reduce the effectiveness of triazine herbicides.Both samples should be taken between rows to avoid disturbed soil or fertilizer bands.
5. Identify the sampling area.
  - a. Take 15-20 plow depth core subsamples using a zig-zag pattern in a management area representing < 20 acres (see Figure 2.). Avoid unusual areas such as dead furrows, old hedge rows, fence lines, old manure piles, lime piles or burn piles. Avoid wet areas or severely eroded areas.
  - b. Take separate samples from areas within the field that vary widely from the rest of the field in color, slope, soil texture, drainage, productivity or crop history.
  - c. Sample each contour strip separately if it is > 5 acres.
  - d. Mix the 15-20 subsamples completely in a clean plastic bag or plastic bucket.
  - e. Avoid sampling under extremely wet soil conditions. Wet samples usually leak in transit and some nutrients in very wet soils may undergo rapid biological transformations (also see 3b.).



**Figure 2. Suggested sampling pattern.**

6. Prepare samples for shipment.
  - a. Spread wet samples in a thin layer on a clean sheet of waxed paper and dry at room temperature. Do not use heat but a fan is acceptable to assist in drying. Remove large stones or sticks and break up large lumps or clods before mixing the sample thoroughly.
  - b. Complete the required information on the sample box before assembling and make sure that it matches the information on the sample information sheet. Place about  $\frac{3}{4}$  - 1 pint of the mixed sample in the sample box then close it securely.
  
7. Fill out the sample information sheet completely.
  - a. A completed sheet must accompany each sample. Required information includes;
    - i. Farm name, address and contact information.
    - ii. Consultant name, address and contact information.
    - iii. Method of reporting results – fax, email or US Mail.
    - iv. Type of report required – with or without recommendations.\*
    - v. Method of payment – account number, credit card information or a check.
    - vi. Sample information – sample identification, soil name, acres, prior crop history, manure history, and crop name and yield goal for up to 3 seasons. Recommendations will not be generated if the information sheet is incomplete.
    - vii. **KEEP A RECORD OF ALL SAMPLES SHIPPED INCLUDING DATE SAMPLED, FARM NAME, FIELD/SAMPLE ID, ANALYSIS REQUESTED, METHOD AND DATE OF SHIPMENT (IE. UPS, FED EX, US MAIL ETC.).**
  
8. Ship your samples to:
 

**Dairy One**  
**730 Warren Road, Ithaca NY 14850**  
**Phone: 1-800-344-2697 ext. 2172**

  - a. Samples can be shipped via U.S. Mail, UPS, Fed Ex, DHL, etc. Selecting these carriers will require additional packaging and will incur additional shipping and handling costs.
  - b. In some areas, samples can be left at milk pick-up points by prior arrangement. Contact the Dairy One Customer Service Department at 1-800-344-2697 ext. 2172 for information on pick-up point locations and schedules.
  
9. Miscellaneous;
  - a. Dried ground samples will be stored at the lab for approximately 4 weeks to allow for additional test requests. Maintain records of your soil test results to assist in monitoring changes in soil fertility over time. This may be useful to adjust soil management to meet crop demands without costly over or under application of nutrients.