



## INSTRUCTIONS FOR COMPLETING SOIL SAMPLE SUBMISSION FORM

**Field History (1):** This information is essential for us to provide the most accurate nitrogen recommendations possible. Indicate crops grown the past **two** growing seasons. BE SURE TO USE THE CROP CODE NUMBER FROM THE LIST ON THE FRONT SIDE. If alfalfa was the crop grown during either or both of the two previous growing seasons, it is important to indicate the number of plants (crowns) per sq. ft.

**Proposed Crops and Yield Goals (2):** You may request recommendations for up to **three crops** by entering the corresponding crop code number, or **three yield goals** for one crop. At least one option must be completed to receive a fertilizer recommendation. If alfalfa is planned for the following year, list the crop code 01 under Option 2 or Option 3 with the desired yield in order to get a lime recommendation to reach pH 6.5. For CRP acres, list the crop most similar to that being seeded (e.g., 04 for legume/grass hay, or 22 for native grasses.)

**Tests Requested (3):** Indicate test choices for each sample. Cost for each test is shown. **Before selecting nitrate, read the information below for Nitrate Test** to see if it applies to your area or crop.

- **Regular Series:** Sample the plow layer (6-8 inches) for cultivated land, or to 3 inches for pastures or sod fields. Includes phosphorus, potassium, pH - lime requirement, percent organic matter, estimated texture.
- **Special Tests:** These tests are conducted only on the plow layer depth. Includes zinc, copper, iron, manganese, boron, calcium, magnesium, soluble salts (electrical conductivity). (Copper recommendations apply only for peat or muck soils.) Research has shown that for Minnesota soils, tests for iron and manganese are not practical; they are included to accommodate special requests.
- **Sulfur Test:** The sulfur test is not a reliable predictor of sulfur needs. Sulfur recommendations are based on crop and soil texture. Contact your county extension educator for details.
- **Nutrient Management P Test:** This test is an Olsen extractable P test, but is designed for situations where the soil test level for phosphorus is expected to be in the high range (>50 ppm Olsen) and is required for nutrient management decisions. Range is 20 – 250 ppm extractable Olsen P.
- **Nitrate Test:** For the N recommendation to be based on the nitrate value, **the soil MUST be collected to a depth of 24 inches**. There are two options: 1) submit two separate samples, a 0-6" depth and a 6"-24" depth sample, or; 2) collect the soil from 0-24" for the nitrate test only. The nitrate test applies to non-sandy soils in western Minnesota with an exception noted below. This test is preferred for making N recommendations for the counties west of and including Lake of the Woods, Beltrami, Becker, Otter Tail, Douglas, Pope, Kandiyohi, Renville, Redwood, Cottonwood, and Jackson. In these counties, the nitrate test is used in making N recommendations for corn, small grains, potatoes, and sugar beets.  
**For the counties EAST of those cited**, the nitrate test is used to recommend N only if the sample is collected in the spring before or near planting (April 1 – June 15).  
N fertilizer recommendations will not be based on the analysis of only plow layer samples for nitrate-nitrogen. If only a plow layer sample is submitted, N recommendations will be based on cropping history, intended crop, yield goal, and soil organic matter level.  
Samples collected for the nitrate test should be **frozen or air-dried immediately**. Drying can be accomplished by spreading the soil in the sun, or placing near a heat source.  
If only nitrate is to be determined, the samples can be dried in a microwave oven using several 2-minute power cycles, stirring between each cycle. Please use an insulated container for shipping frozen samples, as premature thawing can affect nitrate test results.

### SAMPLING INSTRUCTIONS

Submit one sample for each area of the field. Each area should have fairly uniform soil color and texture, cropping history, fertilizer, lime, and manure treatments. One sample should not represent more than **20 acres** on level, uniform landscapes, or **5 acres** on hilly or rolling land. Within each area collect 15-30 sub-samples (cores, borings, or spade slices) in a grid pattern. The more variable the soil, the more sub-samples should be combined per area sampled. Mix the sub-samples thoroughly in a clean plastic pail, and fill the sample box or bag to the fill line (1 pint). If samples must be taken wet, they should be dried before being mixed and submitted to the laboratory. Do not exceed a drying temperature of 97°F, and do not use a microwave oven unless only the nitrate test is requested.

**Sample** each area as follows: Scrape off all surface residue. Sample to the plow layer for cultivated crops or 3 inches for pasture or sod fields. Sample row crop fields between rows, except for ridge-till plantings. Where ridge-till is used, take the sample to a depth of 6-8 inches on the shoulder of the ridge, avoiding the starter fertilizer band. Avoid sampling dead or back furrows, terraces, old fence rows, lime or fertilizer spill areas, headlands, eroded knolls, low spots, or small saline areas. Sample at least 300 feet away from gravel or crushed limestone roads because their dust changes soil pH.

### SHIPPING INSTRUCTIONS

**Fill out** the information sheet as completely as possible so that accurate recommendations can be given. Keep a copy for your records. Place samples in a shipping carton and **enclose the information sheet with a check made payable to The University of Minnesota**. Please do not send cash. The lab is not responsible for cash payment by mail. If the shipping carton is a re-used box, wrap in heavy brown paper.

#### Ship samples to:

Soil Testing Laboratory  
University of Minnesota  
135 Crops Research Building  
1902 Dudley Avenue  
St. Paul, MN 55108

**For additional information on soil analyses, please see our website: <http://soiltest.cfans.umn.edu>, or call or visit your local county extension office. You may also call the Landscape Arboretum Yard and Garden line at (952) 443-1426, or the Soil Testing Laboratory at (612) 625-3101.**

