

Taking A Proper Soil Sample

The data are only as good as the sample

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Soil samples *must* be representative to provide a sound foundation for fertility management decisions. Some rules of thumb are provided, although other factors may need to be considered.

Field Soil/Ground Bed Preplant Sampling

Sample Depth: Sampling depth should equal the root depth and/or tillage depth which generally ranges from the soil surface to six to nine inches below the surface.

Sample Area: Each sample to be tested should represent only one soil type, soil condition, or prior management history.

Subsamples: Take and combine subsamples from 15 to 20 locations within the sampling area. The greater the number of subsamples, the more representative final data. Eg: a one-half pound testing sample may represent a one acre parcel which at a six inch depth may weigh about two million pounds. Subsamples are thoroughly blended. From this blend, a pint to a quart size test sample is obtained.

Fertilizer Presence: Where fertilizer banding or topdressing has been practiced, increase the number of subsamples to up to 30 to 40 per sampling area. Avoid banded fertilizer or topdressed fertilizer areas if possible.

Salt Accumulation: Avoid areas where fertilizer or non-essential salts accumulate such as low areas that collect runoff water.

Sampling Tools: Use clean sampling tools. Even a small amount of fertilizer residue on tools or hands can cause the generation of non-representative results. Avoid galvanized, brass or bronze sampling tools if testing for metallic micronutrients such as zinc or copper. Stainless steel soil sampling tools are available from: Oakfield Apparatus (Oakfield Apparatus, P.O. Box 65, Oakfield, WI 53065). An eighteen inch tube and handle costs about \$47 US.

Import Topsoil Preplant Sampling

Sample Preparation: Obtain representative samples of components such as bark, peat, compost, sand, mineral soil, etc.

Blend Components: The bulk ingredients should be blended in the same proportions as will be used for crop production. A representative one quart sample is then forwarded to the laboratory for the desired fertility analyses.

Important Information: If recommendations are requested, it is important that the laboratory be provided complete information including, but not limited to:

- 1) percent by volume individual components

- 2) crop to be grown
- 3) postplant fertility method (liquid feed, dry feed, etc.)
- 4) irrigation method to be employed (overhead sprinklers, "leaky pipe," rainfall, etc.)
- 5) any additives such as lime or fertilizer which have been blended into the mix
- 6) whether slow release fertilizers such as Nitroform (38-0-0) or other similar materials have been blended into the mix, or will be blended into the mix
- 7) copies of specification guidelines if applicable.

Field Soil/Ground Bed Postplant Sampling

Preplant sampling rules of thumb for field or ground beds also apply to postplant sampling.