Plant Tissue Sampling of Row Crops

FACT SHEET

One of the more important factors affecting crop quality and yield is the **nutrient status** of the plant...or the flow of nutrients to plant tissues during the growing season. Nutrient status is an “unseen” factor in plant growth, except when imbalances become so severe that visual symptoms appear on the plant. The goal of plant tissue analysis is to accurately diagnose problems in time to correct them in the current crop or before the next crop in rotation.

When collecting plant tissue samples in row crops, follow the guidelines in this Fact Sheet. Be sure to collect the correct portion of the plant and at the correct growth stage so results can be compared to published sufficiency levels. Collect enough plant tissue to represent the area you are investigating and use a clean container to ship the sample in. ***Never send fresh samples in sealed plastic bags. Never freeze samples. Do not include roots with samples for nutrient analysis.*** If plant samples have soil, dust, fertilizer, or spray residues on them, they will need a light washing, as follows: With the aid of a plastic colander, spray off the sample with deionized or distilled water. Blot-dry the sample with a clean paper towel. Allow the sample to air-dry and ship as soon as possible in perforated paper bags to allow air movement in transit.

SAMPLING GUIDELINES FOR FIELD CORN

Plant tissue from corn can be taken at three growth stages:

1. Seedling stage less than 12” high. Sample whole plant from 1/2” above soil surface. Collect 15 plants.
2. Prior to tasseling. Sample the most recently unfurled leaf below the whorl. Collect 15 leaves.
3. Silking. Sample the leaf below the ear. Collect 15 leaves.

Seedling stage Prior to tasseling Silking

Seedling Stage

Prior to tasseling

Silking

A & L CANADA
LABORATORIES, INC.

2136 Jetstream Rd.
London, ON N5V 3P5

Phone: 519-457-2575
Fax: 519-457-2664
Aginfo@alcanada.com
www.alcanada.com

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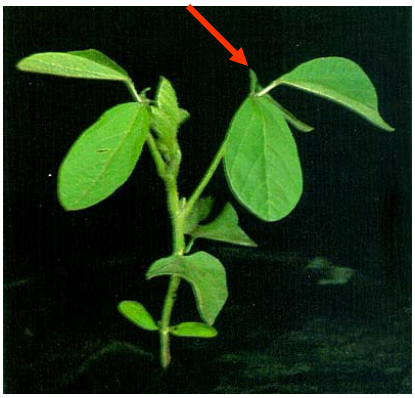
SAMPLING GUIDELINES FOR SOYBEANS

Plant tissue from soybeans can be taken at three growth stages:

1. Prior to flowering.
2. Early bloom.
3. Prior to pod set.

At all three growth stages, sample the most recently fully developed trifoliate leaf. Do not include the petiole. Collect 25 leaves.

Prior to flowering



Early Bloom

Prior to pod set

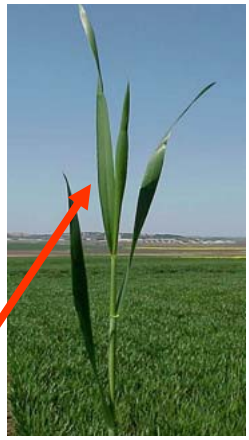
SAMPLING GUIDELINES FOR WHEAT

Plant tissue from wheat can be taken at four growth stages:

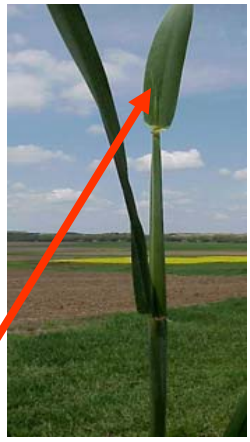
1. Early spring: Sample whole plant from 1/2" above soil surface. Collect 25 plants.
2. Bloom: Sample the most recently fully developed leaf with a collar. Collect 50 leaves.
3. Prior to head: Sample the most recently fully developed leaf with a collar. Collect 50 leaves.
4. Head to mature: Sample the flag leaf. Collect 50 leaves.

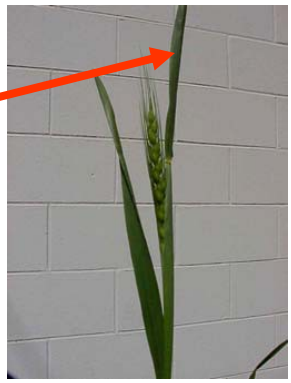
Early Spring

Bloom



Prior to head



Flag leaf

Head to Mature