FarmersEdge
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SAMPLING GUIDE FOR PLANT TISSUE ANALYSIS

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Plant tissue analysis can be used to detect low nutrient levels in plants before they are seen by the human eye. Once visual symptoms are visible, top yields and quality have already been compromised.

Plant tissue test results are an indicator of plant nutritional health and an excellent basis for diagnosing whether existing problems are nutritional in nature.

Plant analysis is an important part of planning future fertility programs.

WHY IS PLANT TISSUE ANALYSIS IMPORTANT?

Plant tissue analysis shows the nutrient status of plants at the time of sampling. Nutrient status is an unseen factor in plant growth, except when imbalances become so severe that visual symptoms appear on the plant.
Not all abnormal appearances are due to a deficiency, it can be the case that the plant has to much of a certain nutrient. Some deficiencies appear very similar in nature and one deficiency can be mistaken for another. A plant tissue analysis can help to pinpoint the cause, if it is nutritional.

A key use of a plant tissue analysis is to utilize it as a monitoring tool for determining the adequacy of current fertilization practices. It can also be possible to prevent nutrient stress if the plant analysis indicates a potential problem developing early in the season.

The following nutrients can be determined in a plant sample by Farmers Edge Laboratories;

Total Nitrogen	Phosphorus	Potassium
Sulfur	Calcium	Magnesium
Copper	Iron	Manganese
Zinc	Boron	Nitrate—N

COLLECTING A SAMPLE

The parts of plants to sample depend on the plant and its growth stage. See table for a description of the best parts to sample for common crops. Collecting and comparing samples from “good” and “bad” areas can often help in determining corrective action. If specific guidelines for your crop are not given in the table, collect recently mature leaves just below the growing point from a sufficient amount of plants.
(See Guide)

When collecting the tissue sample in the field use a clean plastic pail or a paper bag . Large and small paper sample bags are available from the laboratory. A dry brush or damp cloth can be used to clean the samples if they have soil, fertilizer, dust, or spray residues on them.

If you suspect a nutrient deficiency, sample the plants when symptoms first appear. In the same field or area, collect similar samples of plant materials from plants that appear abnormal. Make sure that the symptoms are not due to a factor unrelated to plant nutrition.

WHEN PLANT TISSUE SAMPLING

- Never store the samples in a plastic bag, moisture can’t escape and may cause the sample to decompose.

- Due to the possibility of contamination, never use a metal container.

- Never dry samples in direct sun, place them in the shade to be air dried.

- Do not collect young, emerging leaves or old, mature leaves and seeds. These are not suitable because they are not likely to reflect the nutrient status of the whole plant.

- Do not collect diseased or dead plants.

- Do not collect plants exposed to severe stress (i.e. plants affected by excessively wet soil).

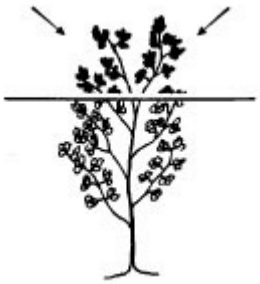
- Do not collect plants that have been showing visible nutrient deficiencies for more then 10 days.

- Do not collect plant with roots or soil attached.

INFORMATION TO INCLUDE WITH YOUR SAMPLE FOR THE LABORATORY

Complete all information requested on the paper sample bags; Client, Sample ID, and Date. Complete all required information requested on a Farmers Edge Laboratories Plant Tissue Submission Sheet. By providing all of the requested information on the submission sheet you aid us in providing you with fast service and an accurate interpretation of your plant analysis.

PLANT TISSUE SAMPLING GUIDE

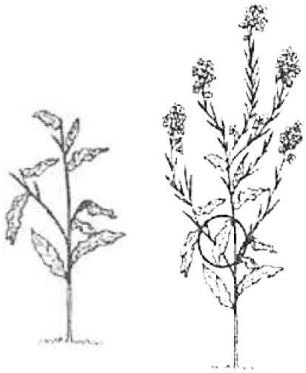


Alfalfa - Collect the top 6 inches or upper third of the plant at early bloom. Sample 15-20 plants.

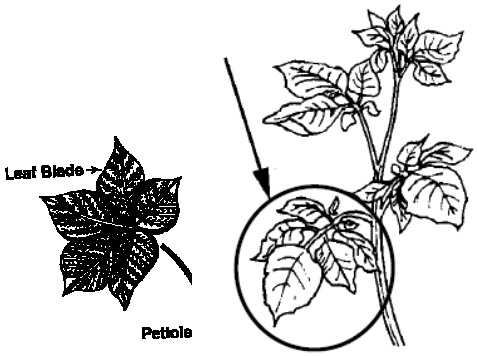
Corn: Before Tasseling - Collect the first fully unfurled leaf below the whirl . Sample 15-20 plants. If the plant is less than 12 inches tall, collect all of the above-ground leaves. Sample 15-20 plants.

Corn: From Tasseling to Silking - Collect the leaves from below and opposite the ear. Sample 15-20 plants.

Soybeans - Collect recently mature trifoliate leaves from the top—before or during bloom. In the seedling stage, collect all of the above-ground portion of the plant. Sample 20-30 plants.

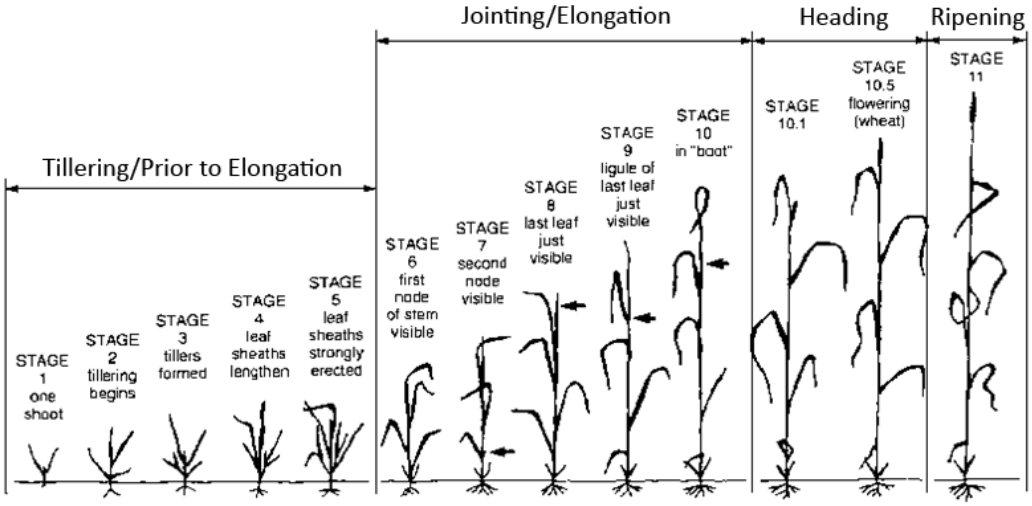


Canola - At Seedling to Vegetative stage, collect entire top. Sample 15 plants. At flowering stage, collect fully developed leaves from top third of the plant. Sample 30 plants.



Potatoes - Collect 4th petiole from the top, no leaves. Sample 30-40 plants.

Small Grains - Collect the four uppermost leaf blades from the top. In the seedling stage, collect all of the above-ground portion. Sample 30-50 plants.



	CROP	GROWTH STAGE	PLANT PART	#OF PLANTS
PULSES	PEAS - GENERIC	ANY	MOST RECENT MATURE LEAF (NO PETIOLE)	30 PLANTS
	BEANS - GENERIC	ANY	MOST RECENT MATURE LEAF (NO PETIOLE)	25 PLANTS
	SOYBEANS - GENERIC	ANY	MOST RECENT TRIFOLIATE LEAF (NO PETIOLE)	25 PLANTS
	SOYBEANS – GROWTH STAGE	PRIOR TO FLOWERING	MOST RECENT TRIFOLIATE LEAF (NO PETIOLE)	25 PLANTS
		EARLY BLOOM	MOST RECENT TRIFOLIATE LEAF (NO PETIOLE)	25 PLANTS
		LATE BLOOM - PRIOR TO POD SET		
OILSEED	CANOLA – GROWTH STAGE	SEEDLING TO VEGETATIVE	ENTIRE TOP	15-20 PLANTS
		FLOWERING	FULLY DEVELOPED LEAVES, TOP THIRD PLANT	30 PLANTS
	FLAX – GROWTH STAGE	SEEDLING TO VEGETATIVE	ENTIRE TOP	15-20 PLANTS
		FLOWERING	FULLY DEVELOPED LEAVES, TOP THIRD PLANT	30 PLANTS
	SUNFLOWERS - GROWTH STAGE	SEEDLING	ENTIRE TOP	15-20 PLANTS
		VEGETATIVE TO FULL BLOOM	YOUNGEST FULLY MATURE LEAF (NO PETIOLE)	30 PLANTS
CEREAL	WHEAT/BARLEY/OATS - GENERIC	ANY	ENTIRE TOP	20-25 PLANTS
	WHEAT/BARLEY/OATS – GROWTH STAGE	PRIOR TO ELONGATION / TILLERING	ENTIRE TOP	25 PLANTS
		ELONGATION	MOST RECENTLY FULLY EMERGED LEAF	50 PLANTS
		FLAG LEAF EMERGED (PRIOR TO HEAD)	MOST RECENTLY FULLY EMERGED LEAF	50 PLANTS
		HEAD TO MATURE	FLAG LEAF	50 PLANTS
SPECIALTY	CORN – GENERIC	ANY	ENTIRE TOP	20-25 PLANTS
	CORN – GROWTH STAGE	SEEDLING (<12 IN. HIGH)	ENTIRE TOP	15 PLANTS
		PRIOR TO TASSELING	MOST RECENTLY UNFURLED LEAF BELOW THE WHIRL	15 PLANTS
		SILKING	LEAF BELOW THE EAR	15 PLANTS
	POTATOES – GROWTH STAGE	60- 125 DAYS AFTER SEEDING - WEEKLY	4th PETIOLE FROM TOP OF MAIN STEM	30-40 PLANTS
FORAGE	ALFALFA	5% BLOOM	TOP 15CM OF PLANT	15-20 PLANTS
	TIMOTHY	BEFORE HEADING	WHOLE PLANT ABOVE GROUND	15-20 PLANTS