

Stukenholtz Laboratory, Inc.

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PLANT TISSUE SAMPLING

The last 30 years have experienced a tremendous increase in plant testing as a management tool. The major purpose of plant testing is to evaluate the nutritional status of the plant and add the necessary elements in water or on the leaves in order to obtain maximum profits for the grower. Plant analysis is not a substitute for soil analysis, but compliments soil testing and makes overall fertilization more efficient and effective.

ADVANTAGES

1. Confirms deficiency symptoms
2. Identifies hidden hunger
3. Detects under-fertilization
4. Detects improper fertilizer placement
5. Used for monitoring crops throughout season
6. Helps increase sucrose content of sugar beets
7. Helps decrease diseases in potatoes
8. Increases yield and protein in small grain
9. Determines feed value of alfalfa
10. Helps increase yield and quality of all crops.

HOW TO SAMPLE

1. Obtain tissue samples from areas representing the field.
2. Collect a sufficient number of samples as described in the following table.
3. When normal and abnormal plants are being analyzed, a sample of both types should be taken for separate analyses.
4. Do not include diseased and insect damaged plants.
5. Avoid dusty or contaminated plant parts.

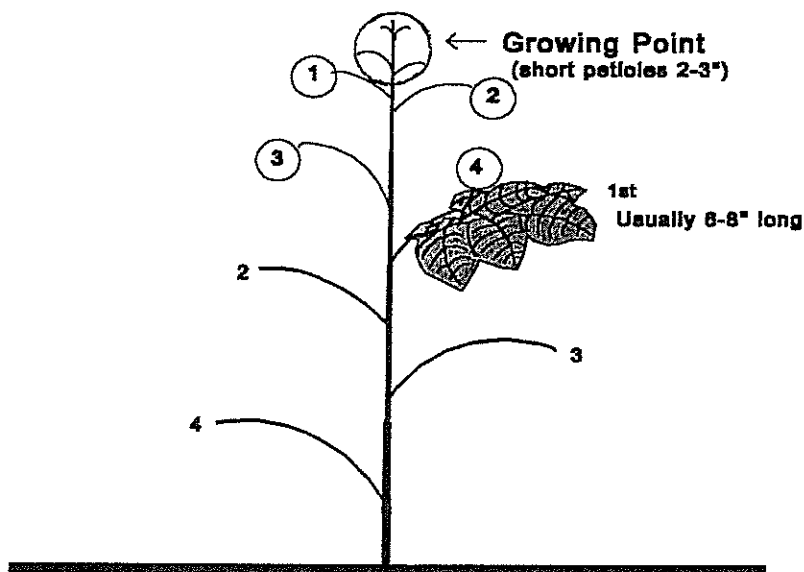
HANDLING AND PACKAGING

1. Place sample in paper bags provided and send to our laboratory within two days of when samples are taken. Do *not* place in plastic bags.
2. Fill out plant analysis request sheets so that intelligent and practical recommendations can be made.

TISSUE SAMPLING INSTRUCTIONS

POTATOES

1. You should take the first recently mature leaf; it is generally the 3rd-5th leaf from the top of the plant, not counting the very small cluster of new leaves at the growing point.
2. Once you have picked the 3rd, 4th, or 5th leaf, you should immediately strip all the leaflets off the petiole (small stem). You just send in the petiole of potatoes, *not the leaflets*.
3. You need to send in a sufficient number of petioles to show the average of the field; usually 30-40 petioles. Laboratory analyses are more accurate when we receive a sufficiently large sample.



SUGAR BEETS

For Nitrates Only: Take 15 petioles from fully matured leaves midway between the younger center leaves and older leaves.

For Complete Analysis: Take 15 petioles and leaf blades from fully matured leaves midway between the younger center leaves and older outer leaves.

ALFALFA

Take entire stem above mower height from 50 plants. The best timing is about 1 week before planned harvest time.

SMALL GRAINS

Until the LATE BOOT stage of growth when the FLAG LEAF is visible, sample the entire plant down to the white area of the stem above the roots. After the LATE BOOT stage, sample the FLAG LEAF only. Sample at least 50 plants from 20-25 locations.

CORN

Prior to silking, take 3rd leaf from top. Take entire leaf opposite and below lower ear between silking and tasseling. Collect 15-20 leaves.

DRY BEANS

Take 50 uppermost mature leaf blades with petioles at or near early bloom stage.

PEAS

Take 25 petioles and leaflets from 3rd node down from the top of the plant before and during initial flowering.

RADISH

Sample 20-25 first fully expanded mature leaves at mid-growth or when root begins to enlarge.

ONION

Sample 25-30 leaves midway between old and new leaves at bulb stage.

CARROTS

Sample 30-35 first fully expanded mature leaves midway between younger new growth and outer older growth.

TOMATO

Sample 20-25 first fully expanded mature leaves located 3-5 leaves from the growing point.

PASTURE GRASS

Sample 50-60 blades from the 4 upper most leaves.

STRAWBERRY

Sample 50-70 of the youngest fully expanded mature leaves at mid-season.

GRAPES

Sample 75-100 petioles from leaves adjacent to fruit clusters at or near the end of bloom period.

HOPS

Sample 40-50 leaves at about head height during early to mid-season.

MINT

Sample 40-50 leaves from the first fully mature leaves below the growing point.

APPLES

Take mature leaves and petioles from each tree at waist to shoulder height, removing only 1 leaf per spur or shoot. Sample 4-8 leaves per tree and sample should contain 100 leaves. Sample from June 1st to August 1st.

APRICOT

Same as for apples, but sample leaves from July 1 to July 15.

CHERRY

Same as for apples except take mature leaves from mid-portion of current season terminal growth 12 to 14 days after full bloom.

PEACH

Same as for Cherry.

LETTUCE

Sample leaf mid-ribs from wrapper leaf at heading time. Take one leaf per plant and sample at least 25 plants.