

AUG 21 1968

**GENERAL INFORMATIONAL GUIDELINES FOR COLLECTING  
PLANT TISSUE SAMPLES FOR NUTRIENT ANALYSIS**

Plant tissue analysis can be effective in monitoring the nutrient status or trouble-shooting poor growth of a crop. The following points and sampling guides will help insure collection of a good diagnostic plant tissue sample.

1. Sample plants representative of the field, orchard, or crop.
2. Collect the correct plant part from at least the number of plants indicated in the guide.
3. Do not collect leaves damaged by disease or insects.
4. Collect separate samples from poor and good areas. This will aid in diagnosis of the problem.
5. Rinse the sampled tissue in clean water to remove dust, soil or spray residues.
6. Partially dry samples before sending to the lab. Laying samples out in the sun works well.
7. Send samples in paper bags (not plastic) to the MSU Soil & Plant Nutrient Laboratory. Be sure to include the proper, completed information sheet.

**PLANT TISSUE SAMPLING GUIDE FOR FRUITS, NUTS, ORNAMENTALS AND FLOWERS**

Crop and Stage of Growth	Number of Plants to Sample	Plant Part to Sample
<b>FRUITS AND NUTS</b>		
APPLE, APRICOT, ALMOND, PRUNE, PEACH, PEAR, CHERRY Mid Season	50-100	Leaves near base of current year's growth or from spurs
WALNUT 6-8 weeks after bloom	30-35	Middle leaflet pairs from mature shoots
GRAPES	60-100	Petioles from leaves adjacent to fruit clusters
RASPBERRY	20-40	Youngest mature leaves on laterals or "primo canes"
STRAWBERRY Mid Season	50-75	Youngest fully expanded leaves
<b>ORNAMENTALS AND FLOWERS</b>		
ORNAMENTAL TREES Current year's growth	30-100	Fully developed leaves
ORNAMENTAL SHRUBS Current year's growth	30-100	Fully developed leaves
TURF During normal growing season	1/2 pint	Leaf Blades. Clip by hand to avoid contamination with soil/other materials
ROSES During flower production	20-30	Upper leaves on flowering stem
CHRYSANTHEMUMS Prior to or at flowering	20-30	Upper fully expanded leaves on flowering stem
POINSETTIAS Prior to or at flowering	15-20	Most recently fully expanded leaves

## PLANT TISSUE SAMPLING GUIDE FOR FIELD CROPS

Crop and Stage of Growth	Number of plants to sample	Plant part to sample
<b>CORN:</b>		
Seedling stage (less than 12")	20-30	All of the above ground portion
Prior to tasseling	15-25	The first fully developed leaf below the whorl
From tasseling & shooting to silking	15-25	The entire leaf at the ear node (immediately above or below it)
Sampling after silking occurs is not recommended		
<b>SMALL GRAINS:</b>		
1. Seedling stage (less than 12")	40-50	All of the above ground portion
2. Prior to heading	40-50	The four uppermost leaves
Sampling after heading is not recommended		
<b>SOYBEANS AND DRY BEANS:</b>		
1. Seedling stage	20-30	All of the above ground portion
2. Prior to or during initial flowering	20-30	Uppermost fully developed trifoliolate leaf
Sampling after pods begin to set is not recommended		
<b>SUGAR BEETS:</b>		
1. Mid-season	30-40	Center fully-expanded leaf
<b>POTATOES:</b>		
1. Mid-season	30-50	Petioles from most recently matured leaf
<b>ALFALFA:</b>		
1. Prior to initial flowering	20-30	Top six inches of plant

**PLANT TISSUE SAMPLING GUIDE FOR VEGETABLES**

<b>Crop and Growth Stage</b>	<b>Number of plants to sample</b>	<b>Plant part to sample</b>
<b>ASPARAGUS:</b>		
Prior to August 1	15	Top 15 cm of fronds
August - September	10	Top 50 cm of fronds
<b>BEANS, SNAP</b>	20	Most recently fully developed trifoliolate leaves
<b>BEEF, TABLE</b>	20	Most recent fully developed leaf
<b>BROCCOLI</b>	15	Most recent fully developed leaf
<b>CABBAGE:</b>		
Prior to heading	15	Most recent fully developed leaf
Heading	15	Wrapper leaf
<b>CANTALOUPE - MUSKMELON</b>	15	5th leaf from growing tip
<b>CARROT</b>	20	Most recent fully developed leaf
<b>CAULIFLOWER</b>	15	Most recent fully developed leaf
<b>CELERY:</b>		
First 6 weeks of growth	15	Whole plant
6 weeks to harvest	15	Most recent fully elongated petioles
<b>CORN, SWEET:</b>		
prior to tasseling	15	5th leaf from growing tip
tasseling to end of silking	15	5th leaf from growing tip or ear leaf
<b>CUCUMBER</b>	15	5th leaf from growing tip
<b>LETTUCE, Heading types:</b>		
Prior to Heading	15	Most recent fully developed leaf
Heading	15	Most recent fully developed leaf
<b>LETTUCE, Leaf types:</b>	15	Most recent fully developed leaf

Crop and Growth Stage	Number of plants to sample	Plant part to sample
<b>ONION:</b>		
Up to 5 leaf stage	20	Whole plant tops
Beyond 5 leaf stage	20	2 most recent fully developed leaves
<b>PEA</b>	30	Most recent fully developed leaf
<b>PEPPER</b>	20	Most recent fully developed leaf
<b>POTATO</b>	30	Petiole of most recent fully developed leaf
<b>PUMPKIN</b>	15	Leaf blade & midrib from most recent fully developed leaf ( <u>remove petiole</u> )
<b>RADISH</b>	30	Whole plant tops or most recent fully developed leaf
<b>SPINACH</b>	20	Most recent fully developed leaf
<b>SQUASH</b>	20	Most recent fully developed leaf ( <u>remove petiole</u> )
<b>TOMATO:</b>		
Prior to bloom	20	Most recent fully developed leaf
Blooming	20	Fully developed leaf adjacent to the top bloom
<b>TURNIP</b>	20	Most recent fully developed leaf
<b>WATERMELON</b>	15	5th leaf from growing tip

These plant tissue sampling guidelines are adapted from the Tables of Interpretative Values in Appendix 1 of "Plant Analysis Handbook" by J. Benton Jones, Jr., Benjamin Wolf and Harry Mills, 1991.