



Custom Agricultural Intelligence Inc.

“Adding Value ... Building Bushels”

Plant root/tissue/leaf/stem

Sample collection instructions:

1. Always use the clean paper bags provided in the kit during collecting the tissue sample in the field.
2. Never use a metal container for the reason metal may contaminate the sample. Never use the plastic bag for samples, moisture buildup will may cause the sample to decompose.
3. To make sure for sample amount on young plants, collect around one pint of lightly packed plant material.
4. **Samples with soil, fertilizer, pesticide, dust, or spray residues on them**, use a dry brush to clean the sample surface.
5. **Sample with more soil residues**, wipe the samples with a damp cloth/tissue or single wash the samples gently with clean water or flowing water.
6. **Samples are wet or succulent**, air-dry the samples before sending (Never dry samples in direct sun, place them in the shade to be air dried).
7. **Sample with suspected nutrient-deficient plants or abnormal appearance in your plant**, take two samples: one from the normal tissue and the other form abnormal tissue for better comparison of the results.
8. **Sample with petioles of a plant**, 20-25 large petioles or 35-40 small petioles from different plants should be submitted.
9. **When sampling for the stage of plant growth**. Make sure to collect the proper plant part at the recommended stage of growth. Refer the sampling guide for different plants shown below.
10. If you need analysis for the leaf portion of the plant, send samples only for the leaves with the stems and roots removed.
11. Specific sampling instructions for different crops are mentioned below. If sampling instructions specific to your sample are not given or you need more clarification, give us a call.
12. Label each sample paper bags with location and serial number to differentiate each sample.
13. Transfer all the paper bags into the kit box and complete the submission form provided in the kit.
14. Ship the collected samples and completed submission form using the addressed envelope provided in the kit.





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Sampling guide for common crops



CORN - BEFORE TASSELING

Collect the first fully developed leaves from the top of 15 to 20 plants. (If the plant is less than 12 inches tall, collect all of the above ground portions).



COTTON

Collect the youngest fully mature leaves on the main stem from 30 to 35 plants selected at random prior to or at first bloom.



CORN - FROM TASSELING TO SILKING

Collect the leaves below and opposite from the ear of 15 to 20 plants.



ALFALFA

Collect mature leaf blades and petioles about one-third of the way down the stem at one-tenth bloom stage or before.





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SOYBEANS

Collect the youngest mature trifoliate leaves from the top of 20 to 25 plants prior to or during flowering. (In the seedling stage, collect all of the above ground portions).



SORGHUM

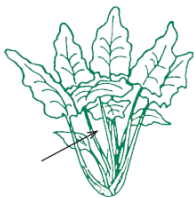
Collect the second leaf from the top of 15 to 20 plants before or at heading.



WHEAT, OATS, & GRASS

Collect the four uppermost leaf blades from the top of 30 to 35 plants. (In the seedling stage, collect all of the above ground portions). Sample should equal two cups.

SUGARBEETS



All growth stages: Submit 25 petioles for nitrate analysis. Submit 25 leaf blades of a fully expanded, recently mature leaf for complete nutrient analysis.

CANOLA

Seedling to rosette stage: Collect entire above ground plant. Sample 20 plants.

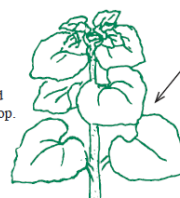


Rosette to pod development stage: Collect 5th leaf from top without petiole, from 30 different plants.

Bud to Bloom: 3rd mature leaf from top. Sample 20 plants.

SUNFLOWER

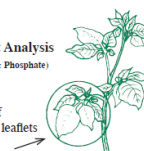
4-8 leaves: Cut plant off 2 inches above ground. Sample 25 plants.



POTATO

Complete Nutrient Analysis (Excluding petiole Nitrate & Phosphate)

All growth stages: Submit entire 4th leaf including petiole and leaflets from 20 plants

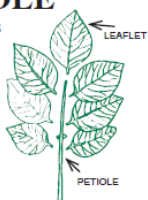


GRAIN AND GRASS

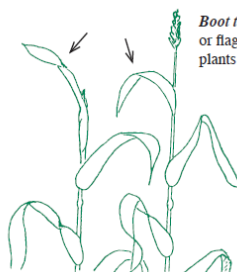
POTATO PETIOLE

Complete Nutrient Analysis or Nitrate and Phosphate Analysis

All growth stages: Remove leaflets from the petiole and submit only the petiole from the 4th leaf of 30 plants.



Seedling to tillering: Cut plant off about 1/2 inch above ground. Sample 50 plants.



Boot to heading: Top leaf or flag leaf. Sample 50 plants.

	CROP	Timing & Growth Stage	Plant part	#Sample plants
PU	Beans- Generic	Seedling stage or prior to or during initial	Entire above ground portion Two or three mature leaves at the top	25-30





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		flowering	(NO PETIOLE)	
	Peas-Generic	prior to or during initial flowering	Most recent mature leaf (NO PETIOLE)	25-30
	Soybeans-Generic	any	Most recent trifoliolate leaf (NO PETIOLE)	25-30
	Soybeans-Growth stage	prior to flowering	Most recent trifoliolate leaf (NO PETIOLE)	25-30
early bloom		Most recent trifoliolate leaf (NO PETIOLE)	25-30	
OILSEEDS	Canola-Growth stage	Seedling to vegetative	Entire top	15-20
		Flowering	Fully matured leaves, top 1/3 plant	30
	Flax-Growth stage	Seedling to vegetative	Entire top	15-20
		Flowering	Fully matured leaves, top 1/3 plant	30
	Sunflower-Growth stage	Seedling	Entire top	15-20
		Vegetative to full bloom	Youngest fully mature leaf (NO PETIOLE)	30
CEREALS	Wheat, barley, oats-Generic	Any	Entire top	15-20
	Wheat, barley, oats-Growth stage	Prior to elongation	Entire top	15-20
		Elongation	Most recent fully emerged leaf	40-50
		Flag leaf emerged (prior to head)	Most recent fully emerged leaf	40-50
		Head to mature	Flag leaf	40-50
SPECIAL	Corn-Generic	Any	Entire top	20-25
	Corn-Growth stage	Seedling (<12" height)	Entire top	15-20
		Prior to tasseling	Most recent unfurled leaf below the whirl	15-20
		Silking	Leaf below the ear	15-20
ROOTS	Potatoes-Growth stage	60-120 days after seeding-weekly	4 th petiole from the top of main stem	30-40
	Carrots, Beets, Onion-Generic	Before root or bulb enlargement	Centre mature leaves	25-30
FORAFE	Alfalfa	5% bloom	Top 15cm of plant	15-20
	Timothy, Hay, Grasses	Before heading or at the best quality stage	Whole plant above ground	15-20
	Flax	Seeding or Before heading	Above ground or youngest mature leaf	50-60
VEGETABLES	Tomato	Before or during bloom, fruit set	Third or fourth leaf from growing tip	20-25
	Lettuce, Spinach	Mid-growth	Youngest mature leaf	30-50
	Celery	Mid-growth	Petiole of youngest mature leaf	20-30
	Cabbage	Before heading	First mature leaf from center of whorl	10-20
	Cucumber	Before fruit set	Main stem mature leaves	20-25





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	CROP	Timing & Growth Stage	Plant part	#Sample plants
FRUITS AND NUTS	Apple, Apricot, Almond, Cherry, Peach, Pear, Plum	Mid-season	Current leaves near the base	75-100
	Blueberries	Mid-season or 2-4 weeks before harvest	Youngest fully expanded mature leaves	75-100
	Grapes	End of bloom period	Petioles from leaves adjacent to fruit clusters	75-100
	Lemon, Lime	Mid-season	Mature leaves from last flush of growth on non-fruiting terminals	30-40
	Orange	Mid-season	Spring cycle leaves, 4 to 7 months old from non-fruiting terminals	25-30
	Pecan	6-8 weeks after bloom	Leaves from terminal shoot, taking the pairs from the middle of the leaf	30-45
	Raspberry	Mid-season	Youngest mature leaves on laterals of primocanes	30-45
	Strawberry	Mid-season	Youngest fully expanded mature leaves	50-70
	Walnut	6-8 weeks after bloom	Middle leaflet pairs from mature shoots	30-40
FLOWERS & ORNAMENTALS	Carnations	Unpinched plants	4 th or 5 th lead pair from base of plant	20-30
	Chrysanthemums	Pinched plants	5 th or 6 th leaf pair from top of primary laterals	20-30
	Ornamental	Before or during early flowering	Top leaves on flowering stem	30-75
	Trees and Shrubs	Current year's growth	Fully mature leaves	30-75
	Poinsettias	Before or during early flowering	Most recent mature expanded leaf	15-20
	Roses	During flowering	Upper leaves on the flowering stems	25-30
	Turf	During growing season	Leaf blades; avoid soil contamination	2 cups

