Are your plants HUNGRY?

Ward Laboratories delivers the data you need to ensure HIDDEN HUNGER isn't a concern.

Plant Analysis has Two Main Applications

1. **Diagnose** a suspected plant nutrient deficiency when visual symptoms are present
2. **Monitor** the plant to determine if essential nutrients are available in sufficient quantities

The **diagnostic role** of plant analysis can expose unknown deficiencies and should always be used in determining whether amendments are needed. It is best practice to sample visually healthy plants to compare with potentially deficient areas.

The **monitoring role** of a plant analysis or a series of plant analyses offers the farmer an opportunity to maintain high quality production with minimal nutrient deficiency problems.

When to Sample

Collect corn leaf samples between V-8 and silking growth stage. Nutrient absorption of the corn plant is greatest just prior to tasseling and it is an easily identifiable point in the development of the plant.

What to Sample

Sample the uppermost collared leaf. The leaf collar is the collar-like band found at the base of an exposed corn leaf blade. It is near the spot the leaf blade comes in contact with the plant stalk.

What NOT to Sample

Exclude plants under extreme stress and avoid tissue that is mechanically injured, diseased, and/or insect-damaged.

After Sampling...

Submit samples in a paper bag and use rapid shipping methods to maintain sample quality. Order free sample supplies on our website.

Figure 1: Corn at silking growth stage

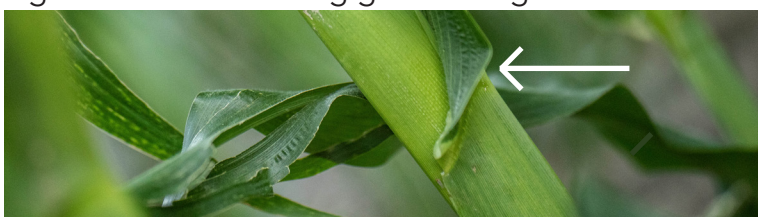

Figure 2: Collar-like band located at the base of a fully developed corn leaf

Figure 3: Ship samples in paper bags only

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Interpreting Plant Analysis Results

Sampling each year on a regular basis then comparing analytical results among samples provides a way of noting changes in nutrient element content.

Upward or downward trends should inform the grower of a potential deficiency or imbalance.

Corrective treatments can then be applied before significant losses in yield or quality occur.

Table 1 contains sufficiency ratings and corresponding values for corn plant tissue analysis. The ratings suggest probability for an impact on crop yield or quality.

An analysis may indicate that a plant nutrient deficiency or excess does not exist. The cause for poor plant growth or visual symptoms needs to be examined elsewhere.

For more information on plant tissue analysis, visit www.wardlab.com.

Source: Ward Guide, www.wardlab.com

Table 1: Corn Nutrient Ranges at Ear Leaf Silking Growth Stage

Nitrogen, % N		Iron, ppm Fe	
Deficient	< 2.21	Deficient	< 20
Low	2.21 – 2.70	Low	20 – 29
Sufficient	2.71 – 3.40	Sufficient	30 – 300
High	3.41 +	High	301 +
Phosphorus, % P		**Manganese, ppm Mn**	
Deficient	< 0.21	Deficient	< 15
Low	0.21 – 0.25	Low	15 – 19
Sufficient	0.26 – 0.35	Sufficient	20 – 150
High	0.36 +	High	151 +
Potassium, % K		**Copper, ppm Cu**	
Deficient	< 1.21	Deficient	< 2
Low	1.21 – 2.00	Low	2 – 4
Sufficient	2.01 – 2.60	Sufficient	5 – 20
High	2.61 +	High	21 +
Sulfur, % S		**Boron, ppm B**	
Deficient	< 0.11	Deficient	< 2
Low	0.11 – 0.15	Low	2 – 3
Sufficient	0.16 – 0.26	Sufficient	4 – 25
High	0.27 +	High	26 +
Calcium, % Ca		**Chloride, % Cl**	
Deficient	< 0.21	Deficient	< 0.05
Low	0.21 – 0.24	Low	0.05 – 0.17
Sufficient	0.25 – 0.80	Sufficient	0.18 – 0.50
High	0.81 +	High	0.51 +
Magnesium, % Mg		**Molybdenum, ppm Mo**	
Deficient	< 0.10	Deficient	< 0.05
Low	0.10 – 0.15	Low	0.06 – 0.20
Sufficient	0.16 – 0.35	Sufficient	0.21 – 2.50
High	0.36 +	High	2.51 +
Zinc, ppm Zn			
Deficient	< 13		
Low	13 – 17		
Sufficient	18 – 60		
High	61 +		

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