

Nutrient Deficiency Identification Guide

Nutrient deficiencies during the growing season can reduce yields. Identifying the symptoms early allows for timely correction, helping to preserve yield potential.

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Nitrogen Deficiency Nitrogen is essential for plant growth and

is part of every living cell. It plays many roles in plants and is necessary for chlorophyll synthesis.



WHAT TO LOOK FOR: Chlorosis/yellowing of lower leaves

- (Often begins in shape of a "V") Stunted and slow plant growth
- Browning or death of older leaves

Phosphorous Deficiency

Phosphorous is essential for plant growth, and a plant must access it to complete its normal

production cycle. WHAT TO LOOK FOR:

- Dark green leaves and stems Stunted appearance
 - Purplish discoloration of older leaves
 - Browning or death of leaf tips
 - Delayed maturity
 - Small, curled leaves

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Potassium is vital for photosynthesis, protein synthesis and many other functions in plants.

WHAT TO LOOK FOR:

Potassium Deficiency

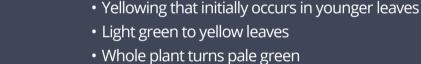


- Leaf burn on edges of older leaves
- Small white or yellow spots along leaf edges
- Eventually, entire leaf turns yellow
- Reduced stalk strength

Sulfur is part of every living cell and is important to the formation of proteins.

WHAT TO LOOK FOR:

Sulfur Deficiency



- Small, spindly plants with thin stems
- Magnesium Deficiency Mg

WHAT TO LOOK FOR:

Magnesium is part of every molecule of chlorophyll, making the nutrient actively

Leaf margins turning yellow or reddish-purple

Interveinal chlorosis or yellowing

involved in photosynthesis.

- Zinc Deficiency Zn
- WHAT TO LOOK FOR: \bigcirc Symptoms first appear on younger leaves

Leaves turn gray-white and fall early

Zinc is required for growth hormone production and is responsible for internode elongation.

 Premature leaf death Severe stunting Poor flowering and seed set

Interveinal yellowing with a striped appearance

- **Boron Deficiency**

as reproductive structures.

WHAT TO LOOK FOR: Yellowing of young leaves Death of the terminal bud

· Dark brown, irregular lesions on leaves

Boron is essential for cell wall formation and rapid growing points within the plant, such

- Whitish-yellow spots at the base of leaves Brittle stems and leaves
 - Thickened and curled leaf tips • Slow, stunted growth due to shortened internodes
 - Misshapen or missing buds Tip-back ears / poor pollination

Correcting Nutrient

Deficiencies

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While recognizing the visual signs of deficiency is often the first step in identifying the problem, it is important to note that similarities exist between how various nutrient deficiencies impact plant tissue color and appearance. Soil and tissue testing can provide

Once it is understood which nutrients are missing, steps can be taken to improve nutrient availability in the soil. Choosing performance fertilizers, like MicroEssentials® helps ensure plants get the right amount of nutrients at the right time. Adding a bio crop nutrition product like BioPath® or PowerCoat™ to fertilizer applications is another way to increase fertilizer efficiency and the return on fertilizer investment.

additional information that can help properly diagnose and correct nutrient deficiencies.

To learn more about how Mosaic products can help

address nutrient deficiencies, visit cropnutrition.com.