

Worksheet B**Symptoms of Nutrient Deficiencies**

Plants will usually display definite deficiencies if required nutrients are not present in adequate concentrations. The following symptoms may occur if the level of one mineral nutrient is not high enough to be within the range needed for best plant growth. A plant may exhibit a particular symptom for reasons other than a nutrient deficiency. However, if one of the deficiency symptoms occurs, a lack of the proper nutrient may be suspected, and the amount of that nutrient should be increased.

Deficient nutrient	Symptoms
Nitrogen	Leaves are small and light green; lower leaves lighter than upper ones; not much leaf drop; weak stalks.
Phosphorus	Dark-green foliage; lower leaves sometimes yellow between veins; purplish color on leaves or petioles.
Potassium	Lower leaves may be mottled; dead areas near tips and margins of leaves; yellowing at leaf margins continuing toward center.
Calcium	Tip of the shoot dies; tips of young leaves die; tips of leaves are hooked-shaped.
Magnesium	Lower leaves are yellow between veins (veins remain green); leaf margins may curl up or down or leaves may pucker; leaves die in later stages.
Sulfur	Tip of the shoot stays alive; light green upper leaves; leaf veins lighter than surrounding areas.
Iron	Tip of the shoot stays alive; new upper leaves turn yellow between veins (large veins remain green); edges and tips of leaves may die.
Manganese	Tip of the shoot stays alive; new upper leaves have dead spots over surface; leaf may appear netted because of small veins remaining green.
Boron	Tip of the shoot dies; stems and petioles are brittle.

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