

# Recognize and Correct Nutrient Deficiency or Excess in Edible Plants

NUTRIENT (SYMBOL)	WHAT IT DOES	WHAT IT LOOKS LIKE		WHAT TO USE TO CORRECT DEFICIENCY
<b>PRIMARY NUTRIENTS</b>				
		<b>DEFICIENCY</b>	<b>EXCESS</b>	
Nitrogen (N)	Responsible for rapid foliage growth and green color	Reduced growth. Light green to yellow foliage (chlorosis). Reds and purples may intensify with some plants. Symptoms appear first on older growth.	Succulent growth; leaves are dark green, thick, and brittle. Poor fruit set.	Manure, blood meal, fish meal or emulsion, soybean meal, alfalfa meal, legume cover crops
Phosphorous (P)	Promotes root formation. Affects quality of flower and fruit formation.	Reduced growth. Thin stems. Leaves dark-green. Purple or red color in older leaves, especially on the underside of the leaf along the veins. Leaf shape may be distorted.	Shows up as micronutrient deficiency of zinc or iron. Seedlings may burn out.	Bone meal, rock phosphate, greensand, superphosphate.  To degrease: avoid future applications 3-5 years.
Potassium (K)	Improves overall vigor of the plant	Reduced growth. Shortened internodes. Margins of older leaves become chlorotic and burned. Necrotic (dead) spots on older leaves.	Causes nitrogen deficiency and may affect the uptake of other nutrients.	Potash, wood ashes, greensand, kelp
<b>SECONDARY NUTRIENTS</b>				
		<b>DEFICIENCY</b>	<b>EXCESS</b>	
Calcium (Ca)	Essential for growth of shoot and root tips. Improves soil structure and helps bind organic and inorganic particles together.	Inhibition of bud growth. Young leaves are scalloped and abnormally green. Leaf tips may stick together. Cupping of maturing leaves. Cavities in tomatoes.	Interferes with magnesium absorption. High calcium usually causes high pH.	Ground limestone, bone meal, fishmeal; soluble forms best.
Magnesium (Mg)	Necessary for the production of chlorophyll. Aids movement and efficiency of phosphorus.	Reduction in growth. Yellowish, bronze, or reddish color of older leaves, while veins remain green. Leaf margins may curl downward or upward with a puckering effect. Poor flower and fruit.	Interferes with calcium uptake. Small necrotic spots in older leaves. Smaller veins in older leaves may turn brown.	Dolomite, limestone, manure, greensand, Epsom salts
Sulfur (S)	Component of many proteins	Rarely deficient. General yellowing of the young leaves, then the entire plant. Veins lighter in color than adjoining interveinal area.	Sulfur excess is usually in the form of air pollution.	Gypsum, composted legumes and cabbage, sulfur