

Primary Nutrients	Function	Deficiency Symptoms	*Solutions
Nitrogen	Vigorous growth & dark green color	Light green leaves; stunted growth	Dried Blood, Garden Manure, Cottonseed Meal, Urea
Phosphorus	Root development & flowering	Smaller yields of seeds & fruit; purplish leaves, stems & branches; Reduced yields; Spotted or curled leaves; Weak root system	Rock Phosphate, Bone Meal, Single Super Phosphate, Triple Super Phosphate
Potassium	Overall hardiness & disease resistance		Muriate of Potash, Greensand
Secondary Nutrients	Function	Deficiency Symptoms	*Solutions
Calcium	Plant vigor; Aids in uptake of nutrients	Deformed terminal leaves; Poor root growth	Garden Lime, Garden Gypsum
Magnesium	Essential part of chlorophyll	Yellowing of older leaves	Garden Lime
Sulfur	Dark green color; Seed production	Yellow leaves; Stunted, spindly plants	Garden Sulfur, Gypsum
Trace Nutrients	Function	Deficiency Symptoms	
Boron	Increases flowering & fruit development	Terminal buds die; Less flowers & fruit develop	Garden Manure, Bone Meal
Chlorine	Helps control water loss & moisture stress	Plants wilt; yellow leaves	Garden Manure, Greensand
Cobalt	Improves growth & transpiration	Reduced growth and yellowing of foliage	Greensand, Kelp, Cottonseed Meal
Copper	Helps produce chlorophyll	Yellow, wilted leaves; Lack of flowering	Garden Manure, Greensand
Iron	Promotes dark green leaves	Yellow leaves	Greensand, Garden Manure, Cottonseed Meal
Manganese	Helps produce chlorophyll	Intervenous chlorosis in younger leaves	Garden Manure, Greensand
Molybdenum	Essential in some enzyme systems	Pale green, rolled or cupped leaves	Greensand, Lime (makes it more available)
Nickel	Enzyme Producton	Yellow Leaves	Greensand
Sodium	Aids water regulation & photosynthesis	Plants wilt	Kelp, Garden Manure, Bone Meal, Greensand
Zinc	Enzyme & growth hormone production	Yellow leaves, Rosetted (clustered) leaves	Garden Manure, Greensand, Cottonseed Meal