Plant Food Elements

http://www.stclareseeds.com/gardenfaqs/plant-food-elements.html

Primart Plant Food Elements					
Element	**Symbol**	**Function in Plant**	**Deficiency Symptoms**	**Excess Symptoms**	**Sources**
Nitrogen	N	Gives dark green color to plant. Increases growth of leaf and stem, Influences crispness and quality of leaf crops. Stimulates rapid early growth.	Light green to yellow leaves. Stunted growth.	Dark green. Excessive growth. Retarded maturity. Loss of buds or fruit.	Urea Ammonia Nilrates
Phosphorus	P	Stimulates early formation and growth of roots. Gives plants a rapid and vigorous start. Is important in formation of seed. Gives hardiness to fall-seeded grasses and grains.	Red or purple leaves. Cell division retardation	Possible tie up of other essential elements.	Superphosphate Rock Phosphate
Potash	K	Increases vigor of plants and resistance to disease. Stimulates production of strong, stiff stalks. Promotes production of sugar, starches, oils. Increases plumpness of grains and seed. Improves quality of crop yield.	Reduced vigor. Susceptibility to diseases. Thin skin and small fruit	Coarse, poor colored fruit. Reduced absorption of Mg and Ca.	Muriate or Sulphate of Potash
Secondary Plant Food Elements					
Calcium	Ca	Part of cell walls. Part of enzymes.	Stops growing point of plants.	Reduces the intake of K and Mg.	Lime Basic Slag Gypsum
Magnesium	Mg	Aids photsvnthesis. Key element in chlorophyl.	Loss of yield. Chlorosis of old leaves.	Reduced absorption of Ca and K.	Magnesium Sulphate (Epsom Salts) Dolomite is 1/3 Mg.
Sulfer	S	Helps to build proteins.	Looks like nitrogen deficiency.	Sulfur burn from too low pH.	Sulfur Superphosphate
Minor Plant Food Elements					
Boron	B	Affects absorption of other elements. Affects germination of pollen tube.	Small leaves Heart rot and corkiness. Multiple buds.	Leaves turn yellowish red.	Borax

Copper	Cu	Enzyme activator.	Multiple budding. Gum pockets.	Prevents the uptake of iron. Causes stunting of roots.	Copper Sulphate Neutral Copper
Iron	Fe	A catalyst. In the enzyme system. Hemoglobin in legumes.	Yellowing of leaves, the veins remaining green.	None known.	Iron Sulphate (Copperas) Chelated Iron
Manganese	Mn	In enzyme system.	Mottled chlorosis of the leaves, Stunted growth.	Small dead areas in the leaves with yellow borders around them.	Manganese Sulphate (Tecmangam)
Molybdenum	Mo	Helps in the utilization of N.	Symptoms in plants vary greatly.	Poisonous to livestock.	Sodium Molybdate
Zinc	Zn	Aids in cell division. In enzymes and auxins.	Small, thin, yellow leaves. Low yields.	None known.	Zinc Sulphate
Elements from air and water					
Carbon	C	Keystone of all organic substances.	None known.	None known.	Air (Carbon Dioxide)
Oxygen	O	Respiration.	White areas at leaf veins. High nitrates.	None known.	Air and Water
Hydrogen	H	Necessary in all plant functions.	Wilting.	Drowning.	Water