One of the challenges for Consulting Rosarians is identifying and correcting nutrient deficiencies in roses. It is always important to eliminate pH as the cause of deficiency. Our CR manual recommends a pH of 6-6.5 so all nutrients in the soil will be available to our roses. After pH is eliminated as a cause, observe whether or not the deficiency is occurring in new or old growth first. The tables below summarize symptoms and possible corrective actions.

When deficiencies show first in younger plant parts:

Deficient Nutrient	Plant	Leaves	Leaf veins	Stems	Roots	Flower petals	Apply:
S	**Smaller than normal**	**Pale green to yellow**	**Yellow**	**Spindly**			**Epsom Salts, gypsum, SulPoMag, manures or composts**
Fe		**Pale green, leaf tips may curl**	**Dark green**				**Iron sulfate or iron chelate**
Ca	**New growth dies, plant may defoliate, older leaves cup downward**	**Dull green**	**Yellow**	**Weak**	**Die**	**Margins roll in**	**Dolomitic lime, calcitic aglime, hydrated or slaked lime, quicklime/burt lime, marl or bone meal**
Cu Very Rare		**Distorted green with yellow tips**					**Copper Sulfate, cupric oxide, cuprous oxide or copper chelate**

When deficiencies show first in older plant parts:

Deficient Nutrient	Plant	Leaves	Leaf veins	Stems	Roots	Flower petals	Apply:
N	Reduced growth	Pale green to yellow leaves remain on plant	Yellow	Weak & short		Small, lighter color	Nitrogen, manures, alfalfa meal, fish emulsion, sewage sludge or blood meal
P		Dull gray-green, older leaves may cup or fall off without turning yellow		Weak	Reduced	Buds slow to develop, bloom quality and size reduced	Rock phosphate, colloidal calcium phosphate, Bone meal, fish meal or sewage sludge
K	Reduced growth	Leaf margins first turn yellow then brown or purple		Blind shoots		May be distorted	SulPoMag, sulfate of potash or nitrate of potash, Kelp, seaweed, green sand, manures or granite meal
Mg	Reduced growth	Yellow to purplish brown with netted appearance	Green				Epsom Salts, SulPoMag, dolomitic lime or manures & composts
B	New growth ceases or withers	Distorted or may cease to develop or may be curled or scorched				Petals rolled inward & bullheaded flowers	Borax, boric acid, sodium pentaborate
Mn	Growth slows	Pale green with darker color next to leaf veins	Green				Ammonium molybdate, molybdenum trioxide & sodium molybdate
Mo		Older leaves yellow, remaining foliage turns light green, leave become distorted					Ammonium molybdate, molybdenum trioxide & sodium molybdate
Cl Very rare	Reduced growth				Stubby		Murate of Potash