

Nitrogen (N)

- mobile

Deficiency: The most common nutrient deficiency. Growth slows, lower leaves cannot produce chlorophyll and yellow between veins while veins remain green. Yellowing progresses through entire leaf, eventually causing it to die and drop off. Stems and leaf undersides may turn reddish-purple, but could be a sign of P deficiency. N is very mobile, dissipates quickly, and must be added regularly to sustain fast growth.

- Older leaves yellow between veins then entirely
- More and more leaves yellow. Severely affected leaves drop.
- Stems and leaf vein undersides might turn reddish-purple
- Younger leaves develop interveinal chlorosis
- Foliage yellows and leaf drop is severe

Treat deficiency: Fertilize with N or complete N-P-K fertilizer for results in 4 - 5 days. Fast-acting organic sources of N: seabird guano, fish emulsion and blood meal. Bio-fertilizers (see "Additives") also stimulate N uptake.

Toxicity: Causes excessively lush soft foliage susceptible to stress, insect and fungal attacks. Stems weaken and may fold over easily. Water uptake is restricted. If severe, leaves turn a brownish-copper, dry and fall off. Roots develop slowly and tend to rot. Flowers are smaller. Ammonium toxicity is most common in acid soils. Nitrate toxicity is more prevalent in alkaline soil.

- Excessively lush green foliage
- Weak stems and slow root growth
- Flowers become wispy
- Leaves brown, dry and fall off

Treat toxicity: Flush growing medium with mild complete fertilizer. Flush a minimum of three times the volume of water for the volume of growing medium. Monitor N closely.

Older leaves turn yellow first when nitrogen is deficient.

