Nutrient Deficiency Symptoms

How to Recognize a Nutrient Deficiency Symptoms?

As a professional turf manager, you are challenged to produce great results efficiently and economically while also being environmentally responsible. You must be able to know quickly if there is something wrong with your lawn. Use this chart to help identify the likely nutrient deficiency causing the problem. For an accurate diagnosis and recommendation, contact your Nutrite Turf Specialist.

Elements	Deficiency symptoms	Comments
Nitrogen	Leaf chlorosis. Older leaves turn yellow and die. Reduced growth rate. Reduction of shoot and leaf density. Greater development of certain diseases (e.g. dollar spot).	Nitrogen deficiency is associated with sandy soils. A deficiency can also occur in soils exposed to high leaching conditions from heavy rainfall or excessive irrigation. Loss by denitrification occurs on poorly drained or compacted soils. Excess nitrogen can promote certain diseases.
Phosphorus	Leaves turn purple, reddish-brown or dark green (almost black). Thin crown. Spring green-up is very slow. Growth is reduced and turfgrass density is low.	Soil test to determine phosphorus need. Phosphorus is important at establishment, less important for a mature turfgrass stand. Turfgrass plants use relatively less phosphorus compare to nitrogen and potash. P availability is sensitive to pH. Maximum availability in soil is at pH 6.5. Reduced uptake in cold soils.
Potassium	Yellowing of older leaves followed by dieback at the tip and scorching or firing at leaf margins. Reduced growth. Greater tendency to exhibit wilting and wear injury.	Deficiencies occur under high rainfall or leaching conditions, sandy soils and low CEC or under high nitrogen fertilization. Excess potassium may cause deficiency of calcium, magnesium or manganese.
Calcium	Root tips turn brown and die. Leaves curl, turn brown and die. Newly expanding leaves may stick together and tear as they open.	Excess calcium may cause magnesium, potassium, manganese or iron deficiency. Deficiencies enhanced by acidic soils (pH<5.5).
Magnesium	Older leaves lose green colour and progress from light green to cherry red. Leaf veins remain green and leaves start to die.	Excess magnesium may cause calcium, potassium, manganese deficiency. Deficiencies enhanced by acidic soils (pH<5.5).
Sulphur	Pale-green or yellow leaves	Sulphur deficiency symptoms are identical to nitrogen deficiency symptoms. Use tissue analysis.
Iron	Interveinal chlorosis in new leaves, then on older leaves as deficiency worsens.	Often blamed for manganese or zinc deficiencies. Occurs commonly in alkaline soils.
Manganese	Interveinal chlorosis. In severe cases, leaves develop necrotic margins and spots. Leaves may be smaller and less distinctly shaped.	Occurs more in alkaline soils.
Zinc	Interveinal chlorosis. Stunted growth. Leaves may form rosettes at ends of shoots.	Excess zinc or copper will reduce iron levels in the plant.