

Nutrient Deficiency Symptoms

PRIMARY ELEMENTS

SYMPTOMS

Nitrogen (N)

Little new growth, yellow leaves: this being more pronounced in older leaves. Earlier fall leaf drop. New shoots may be red to red-brown.

Phosphorous (P)

Purple or reddish cast to leaves. Foliage may be sparse, small and distorted. Very distinctive symptoms.

Potash (K)

Sickly looking plants, undersized fruits, leaves showing marginal and interveinal yellowing. Leaves may crinkle and roll upwards.

SECONDARY ELEMENTS

SYMPTOMS

Calcium (Ca)

Young leaves are small and distorted with curled back leaf tips. Shoots may be stunted and show some dieback.

Magnesium (Mg)

Older leaves show marginal and interveinal reddening. (Later in the season interveinal necrosis may occur. Leaves may be brittle and thin. In the fall as temperatures cool plants are unable to take up Mg and leaves will turn a purple color.

Sulfur (S)

Leaves are pale yellow-green at any stage of development. Shoots are stunted. Similar to chlorosis.

MINOR ELEMENTS

SYMPTOMS

Boron (B)

Youngest leaves may be red, bronze or scorched also small, thick or brittle. New shoot tips may form what is called a witches broom.

Copper (Cu)

Small leaves with necrotic (dead) spots and brown areas near the leaf tips. Rosetting of the leaves and dieback of terminal shoots.

Iron (Fe)

Yellow leaves with green veins leading to marginal scorching. Shoot diameter is small.

Manganese (Mn)

Similar to N deficiency, leaves display marginal scorching, rolling and reduced width.

Zinc (Zn)

Leaves are small, yellow, narrow and older leaves may drop. Small shoots may show rosetting followed by dieback.