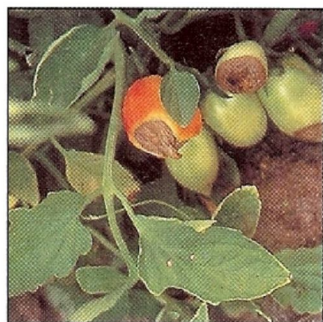




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## Common Deficiencies

### Blossom End Rot



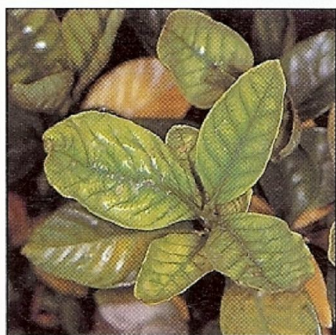
*Symptoms on tomato*

**Symptoms:** A water-soaked spot on the end of fruit gradually enlarges and turns brown or black, with a leathery appearance. The end of the fruit will appear flattened.

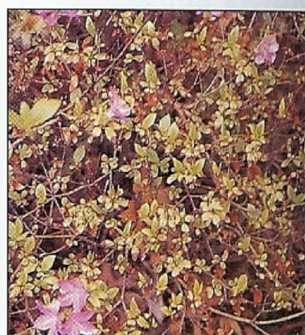
**Plants Affected:** Tomatoes and peppers.

**Prevention & Control:** Blossom end rot is commonly from calcium deficiency. This often occurs when hot, dry weather or rapid growth (due to excess nitrogen, for example) draws extra water and nutrients to the leaves, starving fruit for calcium. Root damage can also interfere with calcium uptake. To avoid blossom end rot, keep soil evenly moist by watering regularly and putting down a thick layer of organic mulch. For plants in containers, choose larger or if possible self-watering pots, to reduce water stress, or use Foli-Cal to correct deficiency disorders.

### Iron Deficiency or Overly High pH



*Damage on gardenia*



*Damage on azalea*

**Symptoms:** Youngest leaves, those near the tips of shoots, turn yellow except for the veins, which remain green. In extreme cases new growth can be yellow to almost white.

**Plants Affected:** Acid-loving plants, including blueberries.

**Prevention & Control:** Symptoms appear when the soil is not sufficiently acidic and commonly occur on susceptible plants growing near buildings because lime that leaches out of the concrete foundations raises soil pH. In most cases, iron is present in the soil in adequate amounts, but plant roots cannot absorb it if the pH is not in the appropriate range for the plant. Generally the well water in this area can be high in alkaline, which may cause petunias and calibrachoa to show effects. The long-term solution is to plant in acidic soil or to make the soil acidic by adding sulfur or peat moss. Mulch acid-loving plants with evergreen needles. The quick way to save an ailing plant is to spray a commercial chelated iron product on its leaves, such as Dr. Iron.

## Magnesium Deficiency



**Symptoms:** Yellowing between leaf veins, which stay green, giving a marbled appearance. This begins with older leaves and spreads to younger growth.

**Plants Affected:** All plants, particularly in tomatoes and potatoes.

**Prevention & Control:** Can be rectified in the short term by applying a foliar feed every 2 weeks, with Epsom salts diluted at a rate of 8oz per 2½ gal of water. In the longer term add dolomitic limestone if soil pH allows. When planting potatoes, toss a handful of Epsom salts in the soil before the potatoes. Reduce usage of potash fertilizers if contributing to the problem.

## Nitrogen Deficiency



*Damage on pepper*

**Symptoms:** Appears as a uniform yellowing of the oldest leaves (those nearest the base of the stem), and sometimes as stunted and spindly growth.

**Plants Affected:** All plants.

**Prevention & Control:** Regular applications of compost or aged manure provide enough nitrogen. If a plant shows deficiency symptoms, spray the leaves with fish emulsion or Daniel's fertilizer.

## Phosphorus Deficiency



*Damage on corn*

**Symptoms:** Bluish or purplish cast to leaves or stems is the most common symptoms; some plants develop purple spots. Plants also do not flower and fruit as well.

**Plants Affected:** All plants.

**Prevention & Control:** Symptoms develop fairly frequently in transplants set out in early spring. Unlike some other nutrients, phosphorus does not move through the soil; roots must grow to reach it. Until the soil warms sufficiently to stimulate root growth, plants may not be able to take up enough phosphorus. Enrich your soil with plenty of compost or other organic materials, as well as bonemeal.

## Potassium Deficiency



*Damage on tomato*

**Symptoms:** Usually appear on older leaves first as yellowing and browning of the leaf margins. Dead areas on edges may drop, giving the leaves a ragged appearance. If severe, young leaves will show symptoms as well; consider having leaf tissue analyzed to confirm.

**Plants Affected:** All plants.

**Prevention & Control:** Soil tests can alert you to deficiency before they become serious. Regular applications of compost or other organic fertilizers will help to maintain an even potassium supply. Sources of potassium include kelp meal, granite dust, greensand and wood ashes. Use wood ashes sparingly as they can raise soil pH.

For more info, see **The Organic Gardener's Handbook of Natural Insect and Disease Control**