# INDUCED NITROGEN DEFCIENCY

**SOIL AMENDMENTS: Straw, Bark, Peat Moss, Wood Fiber Mulch and Manure (with a heavy mixture of bedding straw) can induce a nitrogen deficiency on plants.** These materials are high in carbon content. By adding them into the soil we tend to raise the carbon to nitrogen ratio.

The carbon to nitrogen ratio is the amount of carbon in relation to the amount of nitrogen in the soil. The carbon to nitrogen ratio should be 10:1 or lower. When the soil has ten parts of carbo , it should have at least one part of nitrogen or the plants will not be able to obtain the nitrogen they need. When we add the carbonatious material, we raise the amount of carbon. Micro-organisms in the soil attempt to break down the carbonatious material and in this process they use some of the nitrogen from the soil. The micro-organisms have the ability to take the nitrogen before the plant can, so often times adding soil amendments induces a nitrogen deficiency for the plant.

It is good practice to add some nitrogen with these amendments to bring the carbon to nitrogen ratio back to a ten to one, so both the plant and the micro-organisms requirements are satisfied.

**Liquid Fertilizers Tend to Volatize More Than Dry Fertilizer on Turf.**

Part of the liquid fertilizer sticks to the grass leaf when applied to turf. When temperatures and climatic conditions are right, particularly if urea nitrogen is used, urease enzymes can convert part of the nitrogen to gases that can volatize off into the air.

Dry pelleted fertilizers tend to filter down through the grass to the mat or soil surface, where it can readily be dissolved and moved into the root zone.