

BOTANY, PLANT PHYSIOLOGY AND PLANT GROWTH

Lesson 9: Plant Nutrition

Nutrients to monitor closely

- Some elements are less likely to be deficient. Place an asterisk before the nutrients that typically are present in sufficient amounts in air, water, and Minnesota soils.
- Then underline the elements without asterisks; levels of the underlined elements will need to be monitored more closely.

MACRONUTRIENTS

Found in air and water

| | |
|----------|---|
| carbon | C |
| oxygen | O |
| hydrogen | H |

Primary Elements

| | |
|------------|---|
| nitrogen | N |
| phosphorus | P |
| potassium | K |

Secondary Elements

| | |
|-----------|----|
| calcium | Ca |
| magnesium | Mg |
| sulfur | S |

MICRONUTRIENTS

| | |
|------------|----|
| iron | Fe |
| manganese | Mn |
| copper | Cu |
| zinc | Zn |
| boron | B |
| molybdenum | Mo |
| chlorine | Cl |
| cobalt | Co |

Nutrients to associate with key functions:

- Find the element having a key function in producing vegetative growth rather than reproductive growth. Write “vegetative” after the element.
- Find the element that is a part of a compound in the cell wall. Write “cell wall” after the element.
- Find the element that is present in chlorophyll and that acts as a catalyst. Write “chlorophyll” after the element.