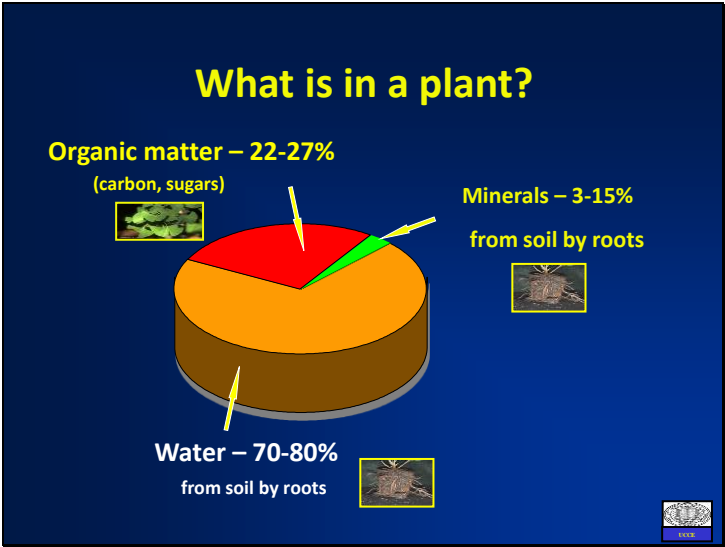




Overview

- What is in a plant?
- Nutrients
 - -Macronutrients
 - -Micronutrients
- Nutrient Uptake Processes
- Nutrient Allocation Processes
 - -Mobile Nutrients
 - -Immobile Nutrient





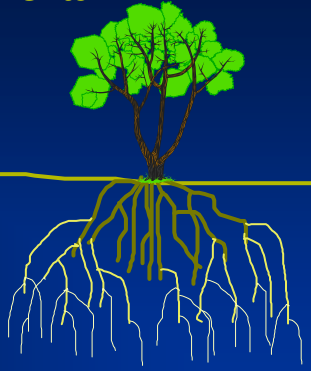
Plant Requirements


Air
*Carbon
*Oxygen

Soil -Air Spaces
*Water
*Oxygen

Soil – Nutrients

*Nitrogen	*Magnesium	*Copper
*Phosphorus	*Potassium	*Zinc
*Sulfur	*Molybdenum	*Boron
*Calcium	*Manganese	*Iron
*Chlorine	*Nickel	






Macronutrients
Dry tissue concentration = %

<u>Element</u>	<u>Abbreviation</u>
Nitrogen	N
Phosphorus	P
Potassium	K
Sulfur	S
Calcium	Ca
Magnesium	Mg

Nancy Peterson's Kite Sails Calmly and Magnificently.




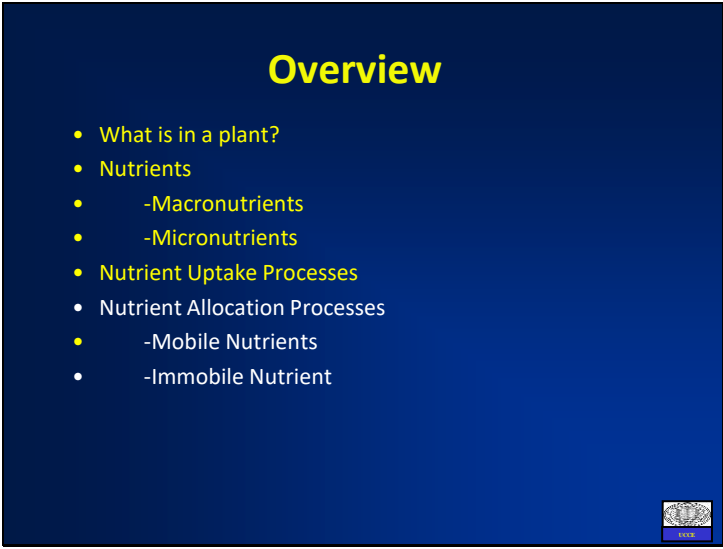
Micronutrients

*dry tissue concentration = ppm
 1 ppm = 0.0001 %
 Example: Fe 50 ppm = 0.0050 %

<u>Element</u>	<u>Abbreviation</u>
Iron	Fe
Manganese	Mn
Copper	Cu
Boron	B
Zinc	Zn
Molybdenum	Mo
Chlorine	Cl
Nickel	Ni

Fertilizer Management Cuts Back the Zone of Most Clutter of chemicals Nicely



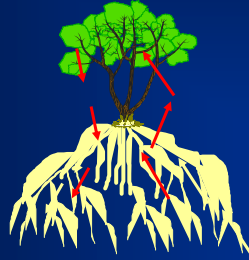


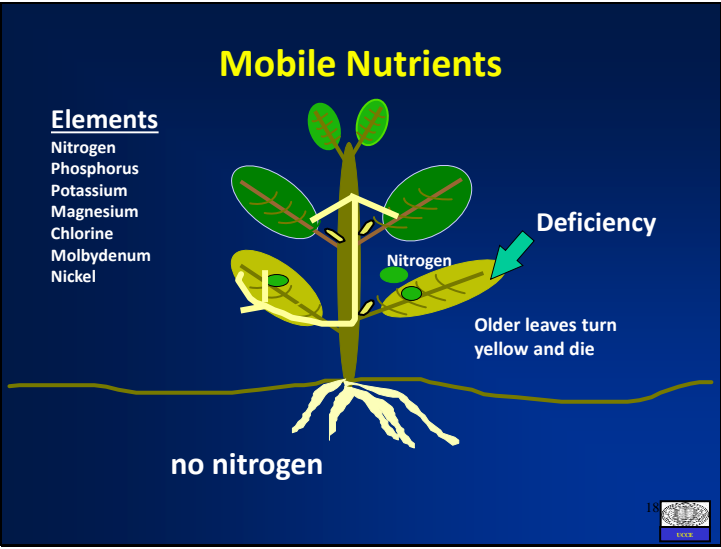
Overview

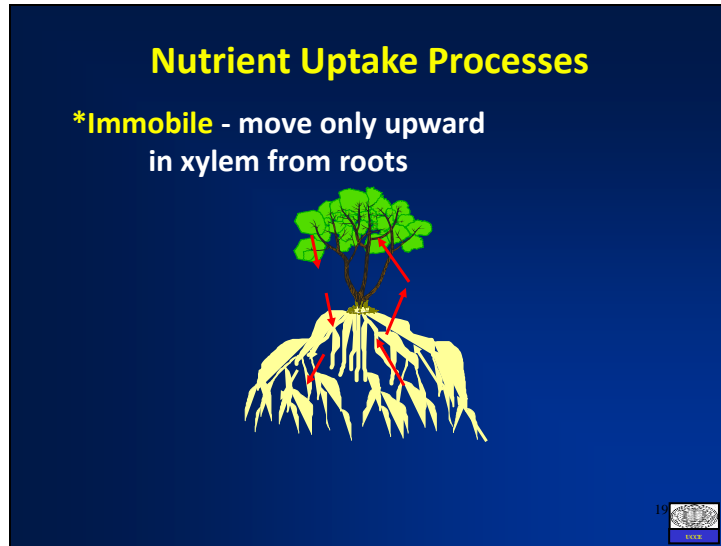
- What is in a plant?
- Nutrients
 - -Macronutrients
 - -Micronutrients
- Nutrient Uptake Processes
- Nutrient Allocation Processes
 - -Mobile Nutrients
 - -Immobile Nutrient

Nutrient Uptake Processes

***Mobile** - move upward in xylem from roots.
Also can be remobilized from older tissues and
translocated in phloem to younger growth.

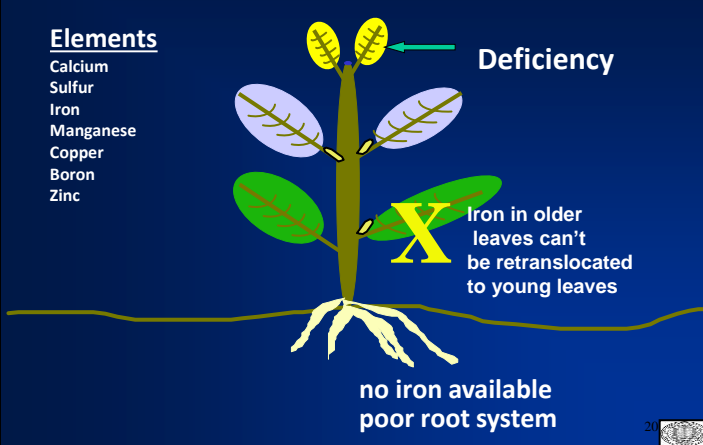






Immobile Nutrients

Elements
 Calcium
 Sulfur
 Iron
 Manganese
 Copper
 Boron
 Zinc



Deficiency

X Iron in older leaves can't be retranslocated to young leaves

no iron available
 poor root system
