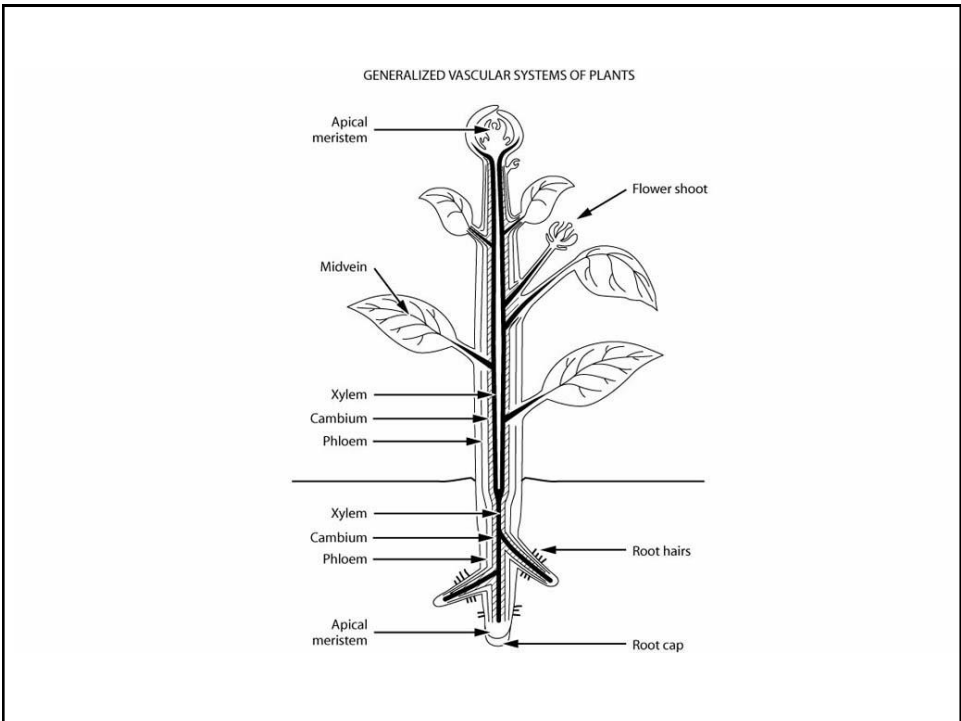
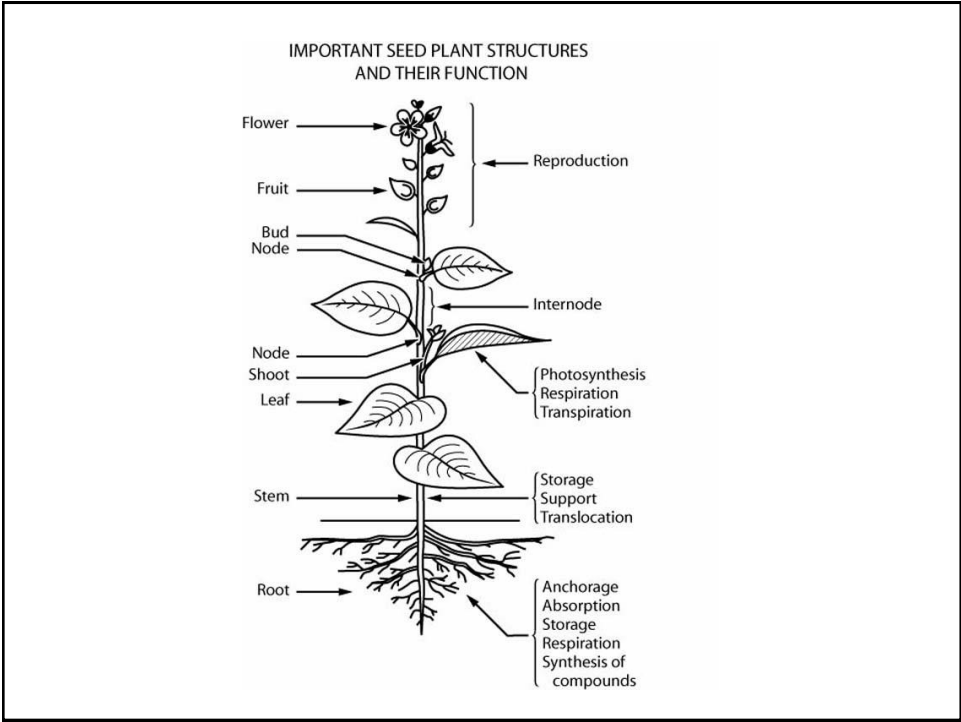


# **Intro to Crop Management:**

## Plant Structure and Activity

Franz Niederholzer, UC Farm Advisor, Colusa/Sutter/Yuba Counties  
Rich Rosecrance, Professor, CSU Chico

## Plant Structure

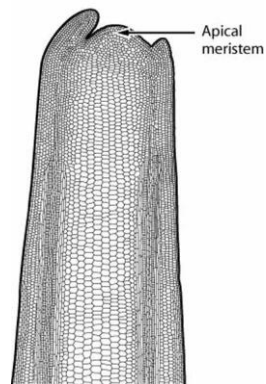


## Meristems

- Apical
- Lateral

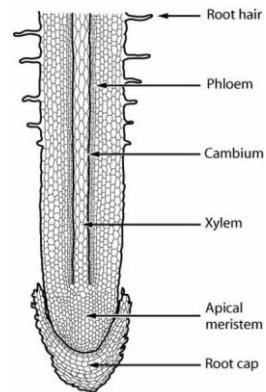
## Apical Meristems

APICAL MERISTEMS  
OF SHOOTS AND ROOTS



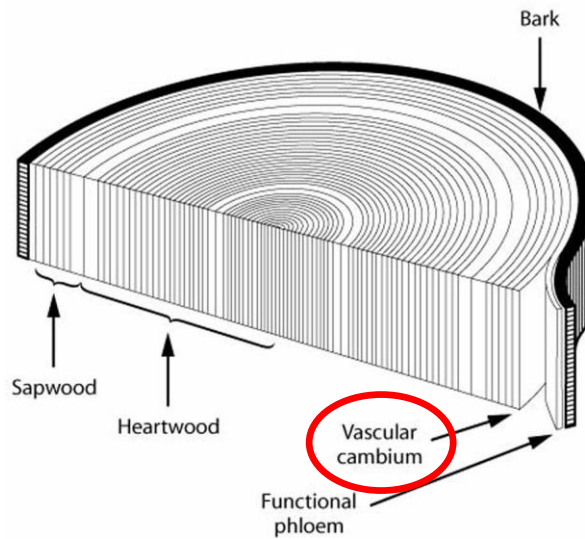
SHOOT

APICAL MERISTEMS  
OF SHOOTS AND ROOTS

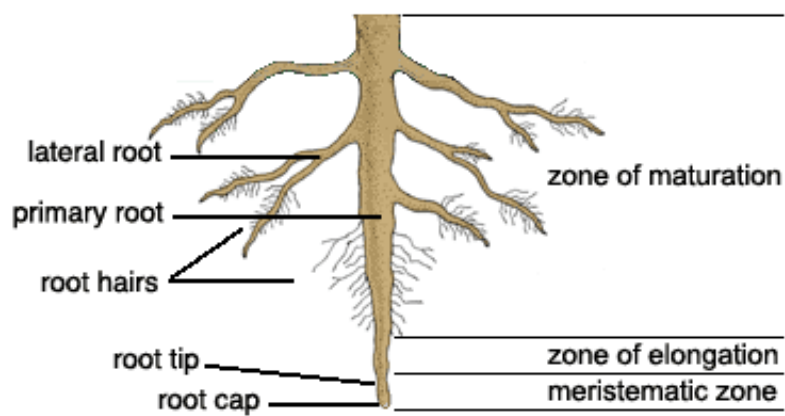


ROOT

## Lateral Meristem

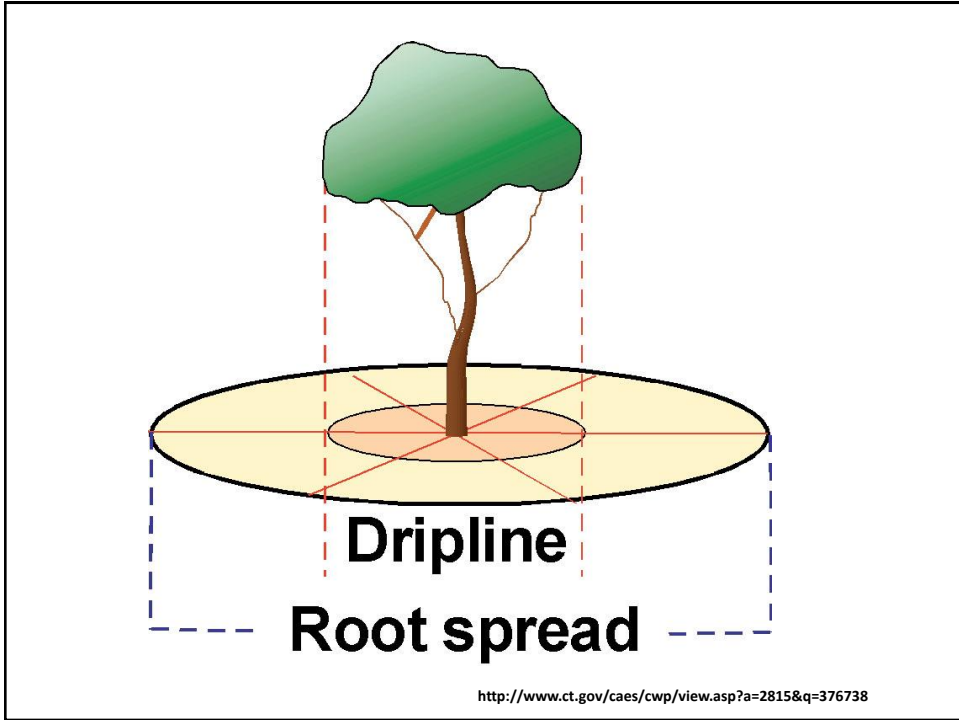


## Roots



**Figure 2. Root Structure**

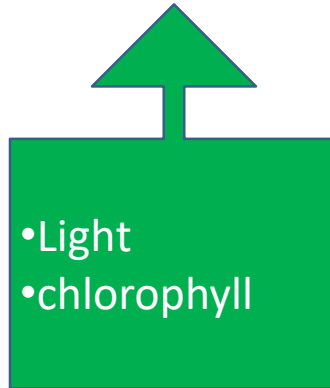
<http://extension.oregonstate.edu/mg/botany/roots.html>



Plant Growth

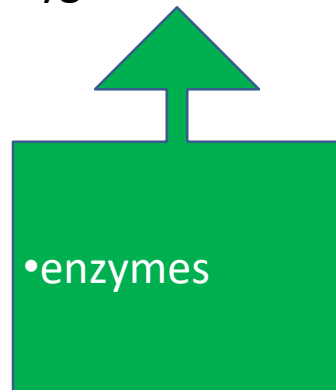
## Photosynthesis

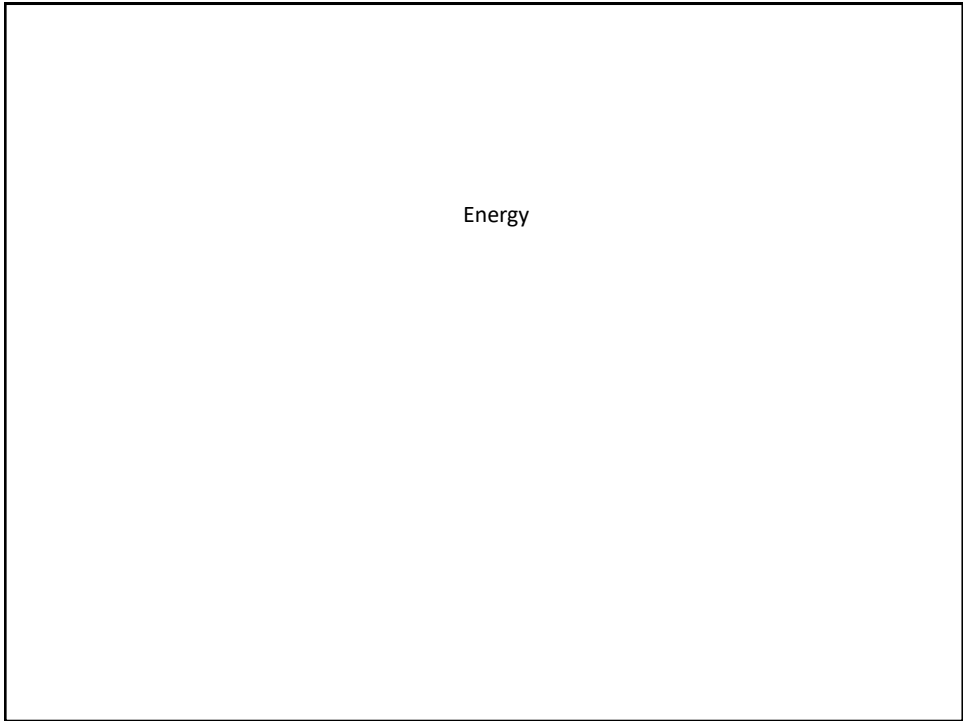
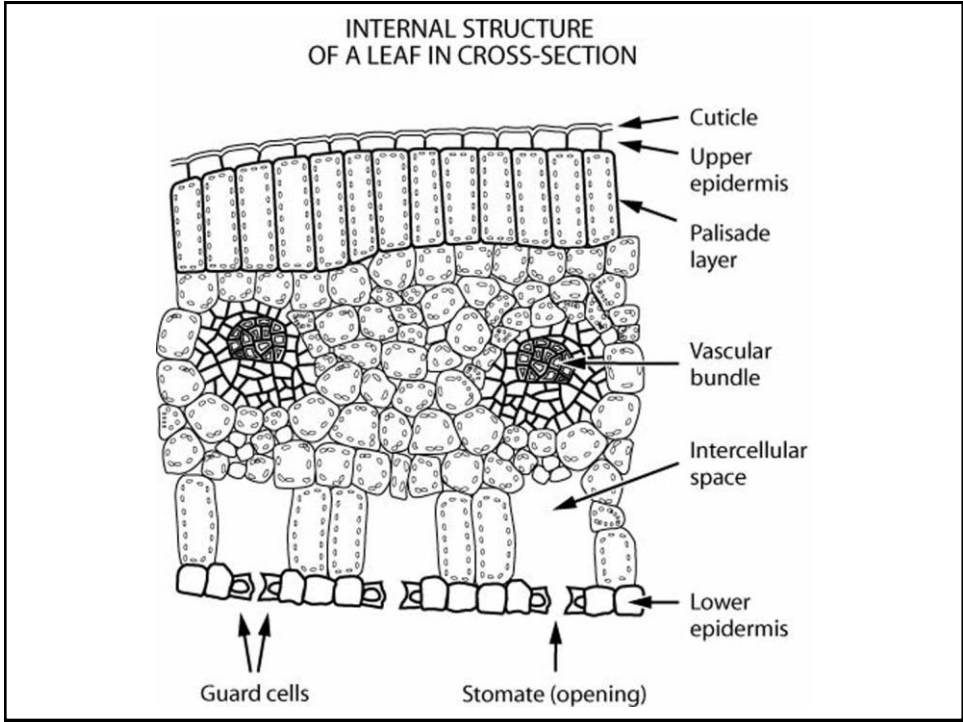
Carbon dioxide + water  $\rightarrow$  sugar + oxygen

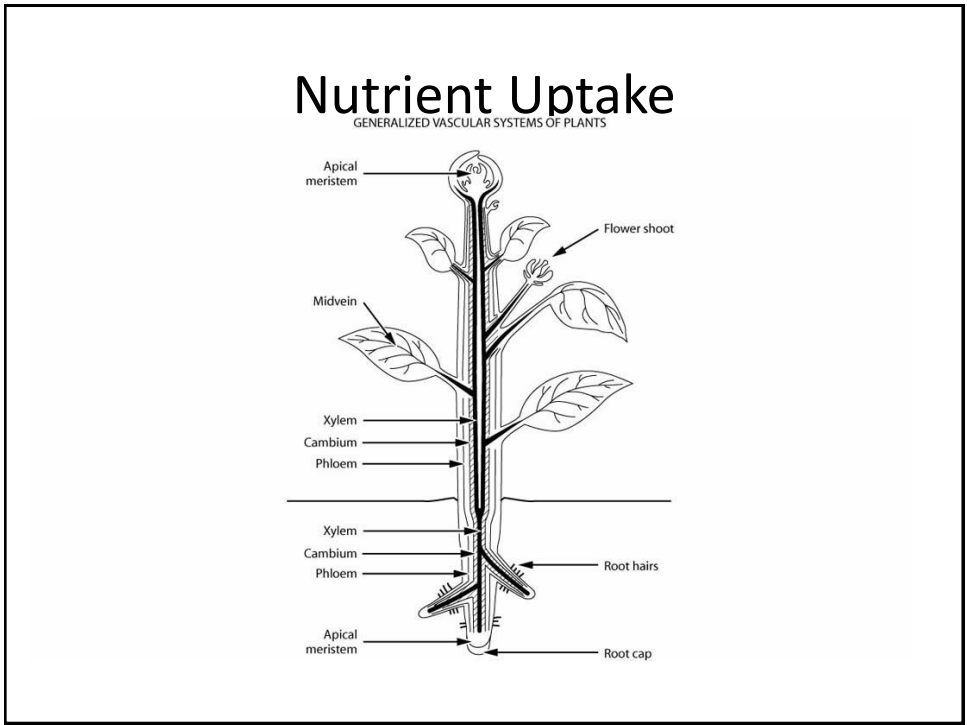
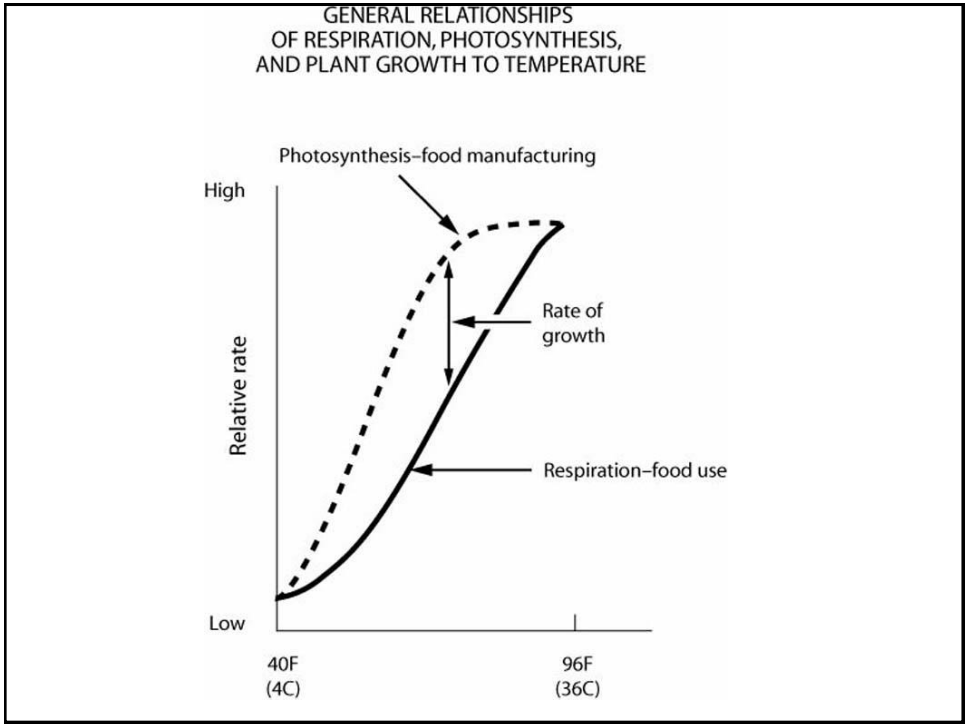


## Respiration

Sugar + oxygen  $\rightarrow$  carbon dioxide + water

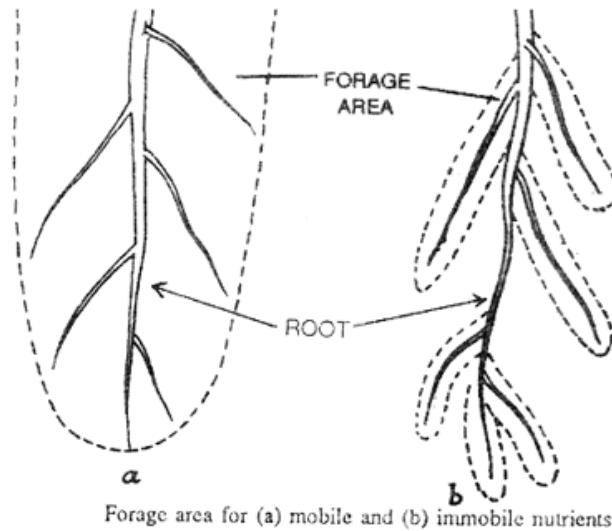








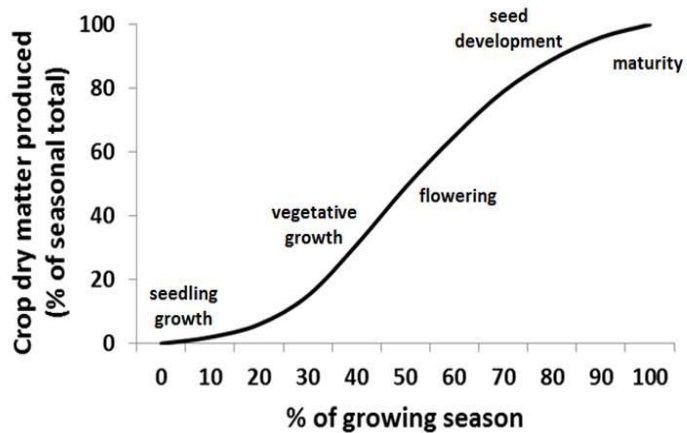
## Nutrient Uptake



## Stages of plant development

- **Seed Germination**
- **Juvenility**
- **Maturity**
- **Reproduction**

## Annual crop dry matter production follows an “S” curve pattern.



## Plant Growth Regulators

- Auxins
- Gibberellins
- Cytokinins
- Ethylene
- Abscisic acid

## Plant Growth Regulators

- Auxins
  - Phenoxy herbicides, NAA
- Gibberellins
  - ProGibb<sup>®</sup>, etc. (GA3)
- Cytokinins
  - Prestige<sup>®</sup>
- Ethylene
  - Ethrel<sup>®</sup>
- Abscisic acid
  - ProTone<sup>™</sup>