

Hormones & the Control of Plant Growth

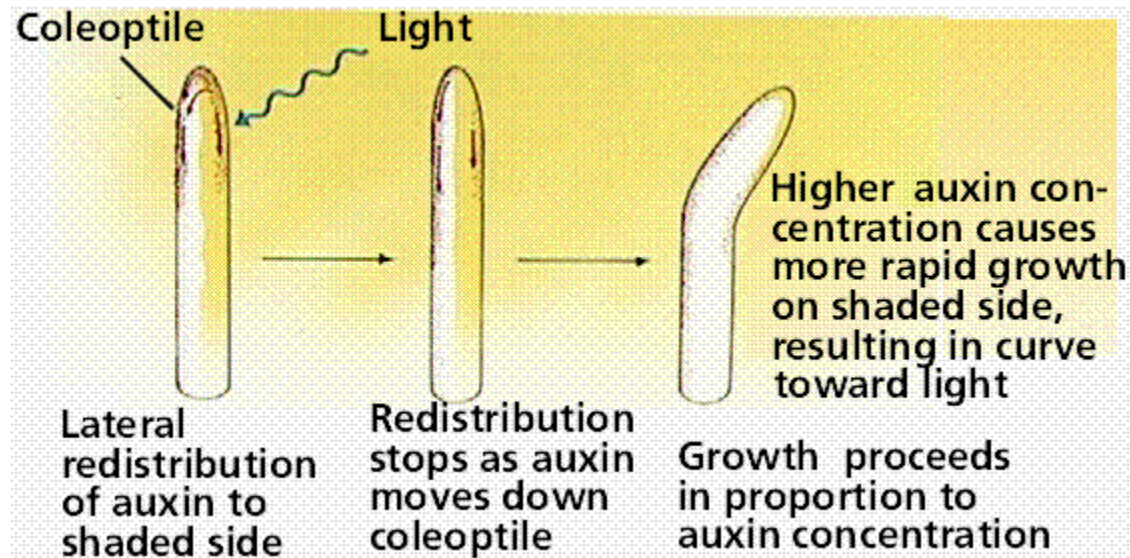


Plant Hormones

- Auxin (IAA).
- Gibberellins.
- Cytokinins.
- Ethylene.
- Abscisic Acid (ABA).

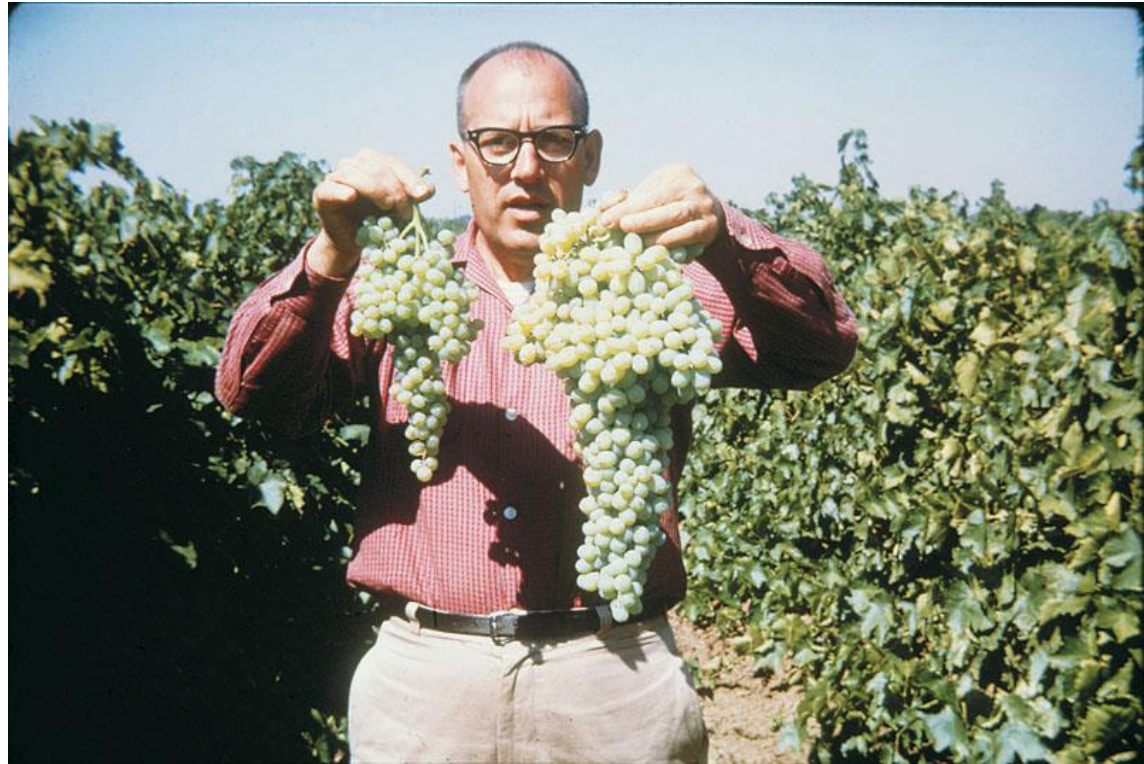
Auxin

- Bends stem toward light.
- Downward root growth away from light.
- Causes plant to grow tall and straight.
- Prevents leaves from falling.



Gibberellins

- Promotes seed germination.
- Promotes stem and root growth.
- Promotes leaf growth.
- Promotes flower development.



Cytokinins

- Promotes division and differentiation of cells.
- Promotes seed germination.
- Promotes flowering.
- Prevents aging.



Ethylene

- Ripens fruit.



Abscisic Acid

- Inhibits growth.
- Induces dormancy.
- Causes leaves to fall.



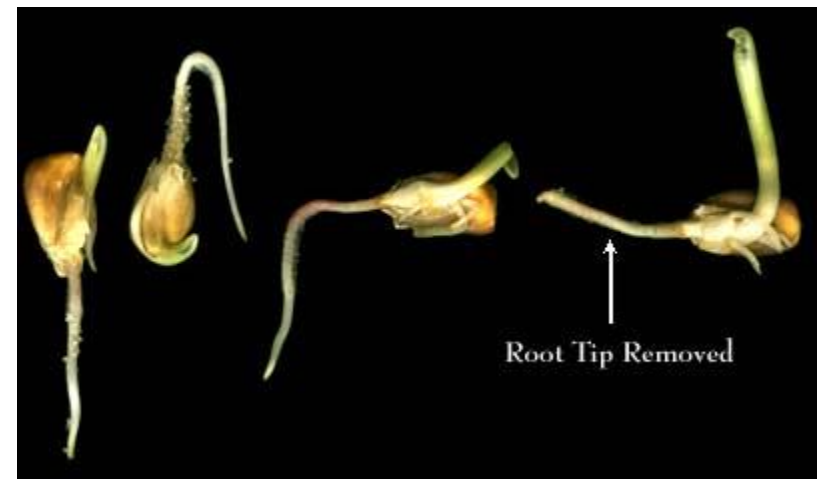
Plant Growth

Tropism:

- Growth of plant in response to external stimuli.
- **Positive tropism.**
 - Growth in direction of stimulus.
- **Negative tropism.**
 - Growth in opposite direction of stimulus.

Type of Tropism

- **Phototropism (light).**
 - Roots: -
 - Shoot: +
- **Gravitropism (gravity).**
 - Roots: +
 - Shoot: -



Type of Tropism

- **Thigmotropism (touch).**
 - Shoot: +



(a) Unstimulated state



(b) Stimulated state



Type of Tropism

- **Hydrotropism (water).**

- Roots: +

