

Plant Hormonal Control REWRITE!!

Tuesday, February 25, 2014 10:54 AM

- Plants are able to sense their environment through signal transduction pathways
 - Plant cells are receptive to a signal and signals is transduced into a response
 - Reception
 - Signals are detected by receptor proteins that change shape in response to their stimulus
 - ◆ Many receptors are in plasma membrane; others within the cytoplasm
 - Transduction
 - Is a conversion of signals from outside cell to create a specific cellular response
 - ◆ Generally involves secondary messengers
 - ◇ Are small molecules (or ions) in cells that amplify signal and transfer to proteins
 - ◇ Proteins then carry out cell response
 - Response
 - Increased activity of particular enzyme
 - ◆ Occurs because of structural modification of existing enzyme
- General model for signal transduction pathways -- **figure 39.3**
- Signaling molecules in plants are hormones that help coordinate growth, development and response to stimuli
 - Signaling molecule produced in tiny amounts in one part of organisms body
 - Transported to other parts of the body where it binds to specific receptors
 - After it binds, it triggers a response
 - The term study of animals, however:
 - Plants have no circulatory system
 - Some plant signaling molecules are not always in low concentrations
 - Some signaling molecules may only act in a plant locally
 - Other terms include **plant** hormones or plant growth regulations
 - Plant hormones are produced in small amount it produces a lot of effects
 - All plant growth and development is under hormone control
 - Hormones can have multiple effects on one process
 - Growth/ development is controlled by its interaction with other hormones, its not on it own