**Plant Responses**:

Ch. 39

Light:

 Etiolation:

 De-etiolation:

 Receptor:

 Secondary messengers:

Reception:

Transduction:

Response:

Hormones:

 Auxin: (Fig 39.8) (IAA)

 Cytokine:

 Control of apical dominance

 Gibberellins:

(Fig 39.11)

 Abscisic acid: (ABA)

 Ethylene:

 Triple response:

 Apoptosis:

 Leaf abscission:

 fruit ripening:

**Response to light**:

Light:

 Photomorphogenesis:

 Blue-light photoreceptors:

 Three pigments:

cryprochromes

 phototropin:

 zeaxanthin:

 Phytochromes:

 Seed germination:

 Shade avoidance:

 Circadian rhythm:

**Response to seasons**:

 Photoperiod:

 Phototropism:

 Short-day plant:

 Long-day plant:

 Day-neutral plant:

**Response to gravity**:

 Gravitropism:

 positive:

 negative:

 Statoliths:

**Response to mechanical stimuli**:

 Thigmomorphogenesis:

 Thigmotropism:

 Fig 39.27

 *Mimosa pudica*:

 Motor organs:

**Response to environmental stress**:

 Drought:

 Flood:

 Salt stress:

 Heat-shock protein:

 Cold stress:

**Plant defense**:

 **Herbivore**:

**Pathogen**:

 Virulent:

 Avirulent:

 Gene-for-gene recognition: (Fig 39.30)

 R gene:

 Avr gene:

 Non-specific response: (Fig 39.31)

 Oligosacchrins:

 Elicitors:

 Phytoalexins:

 PR-proteins:

 Systemic Acquired Resistance: SAR

Gravitropism

