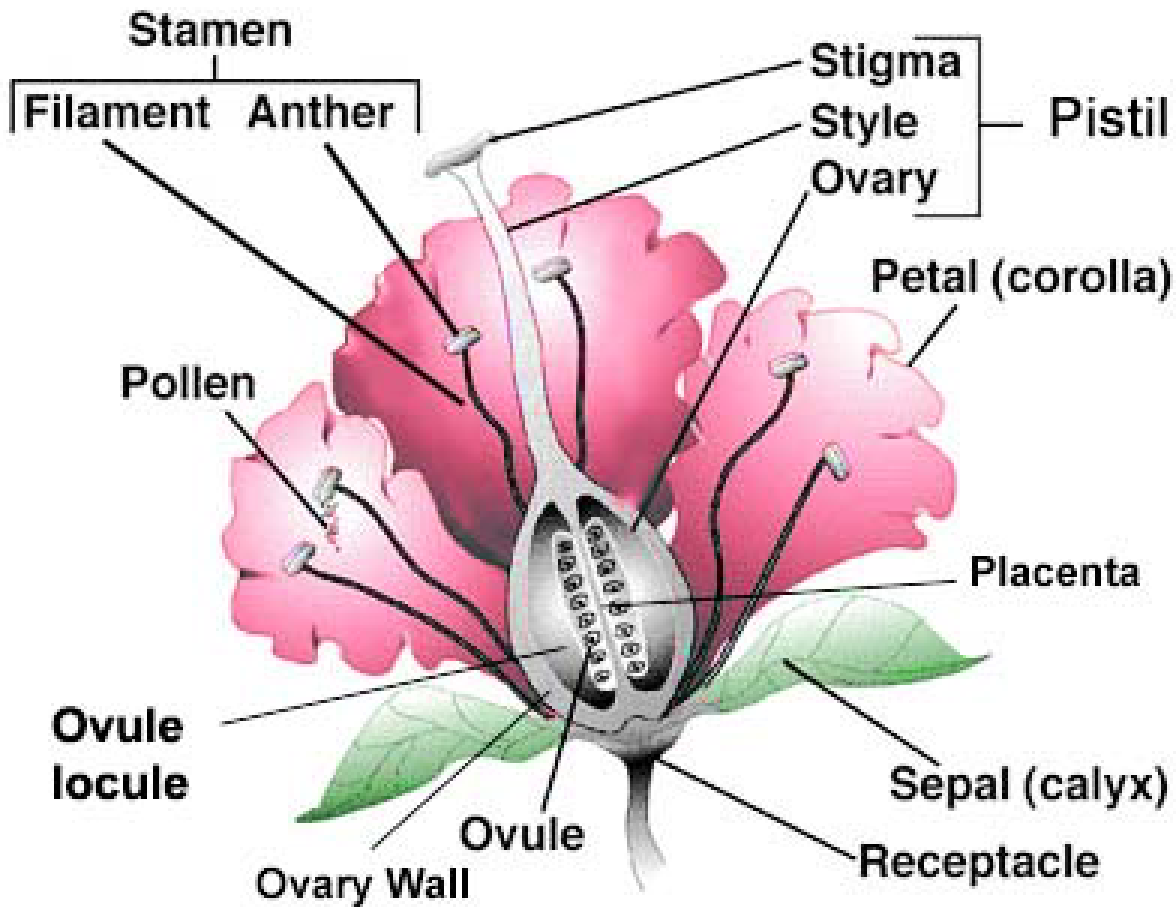
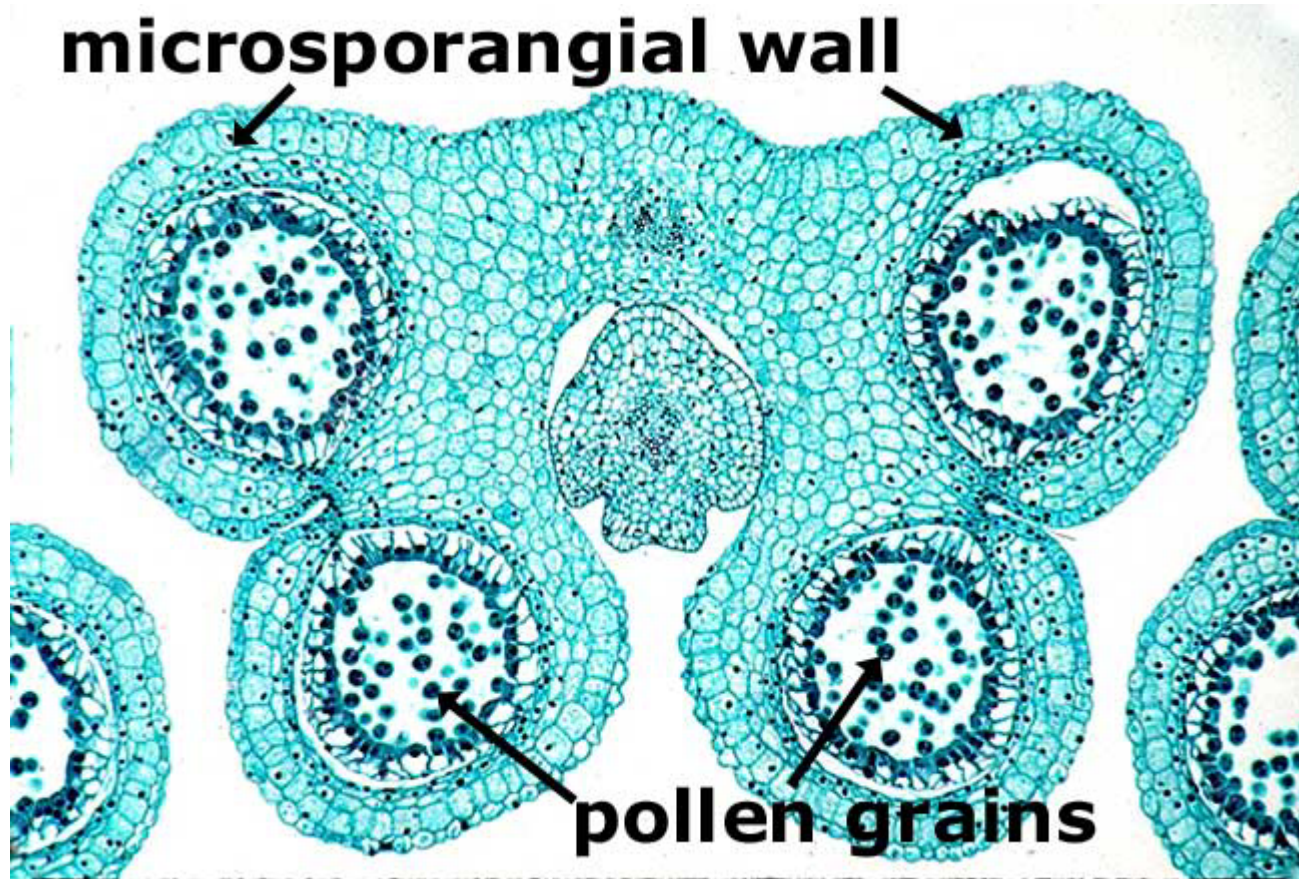


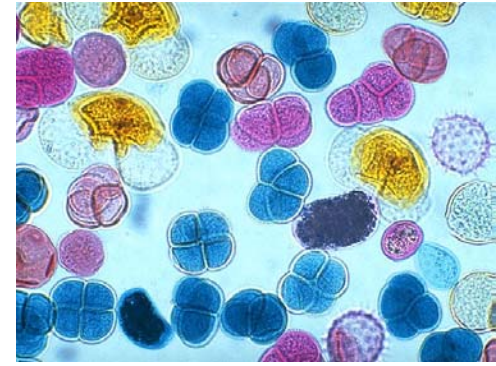
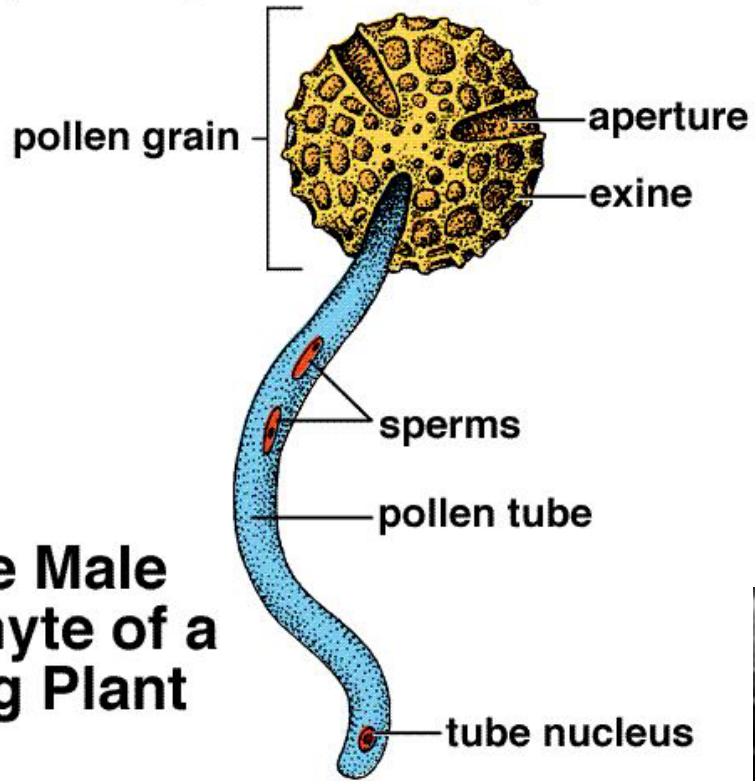
# **Fabulous Flowers**

# Flowers

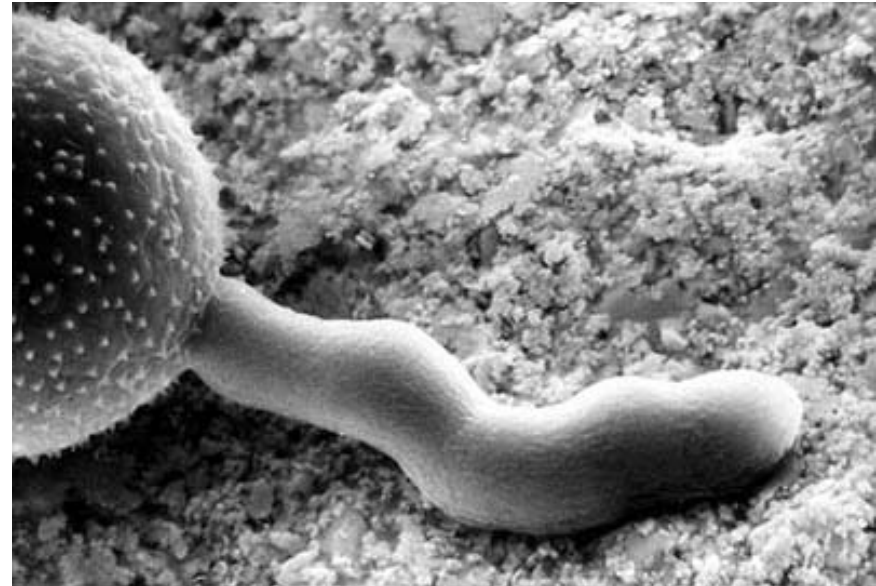


# Anthers

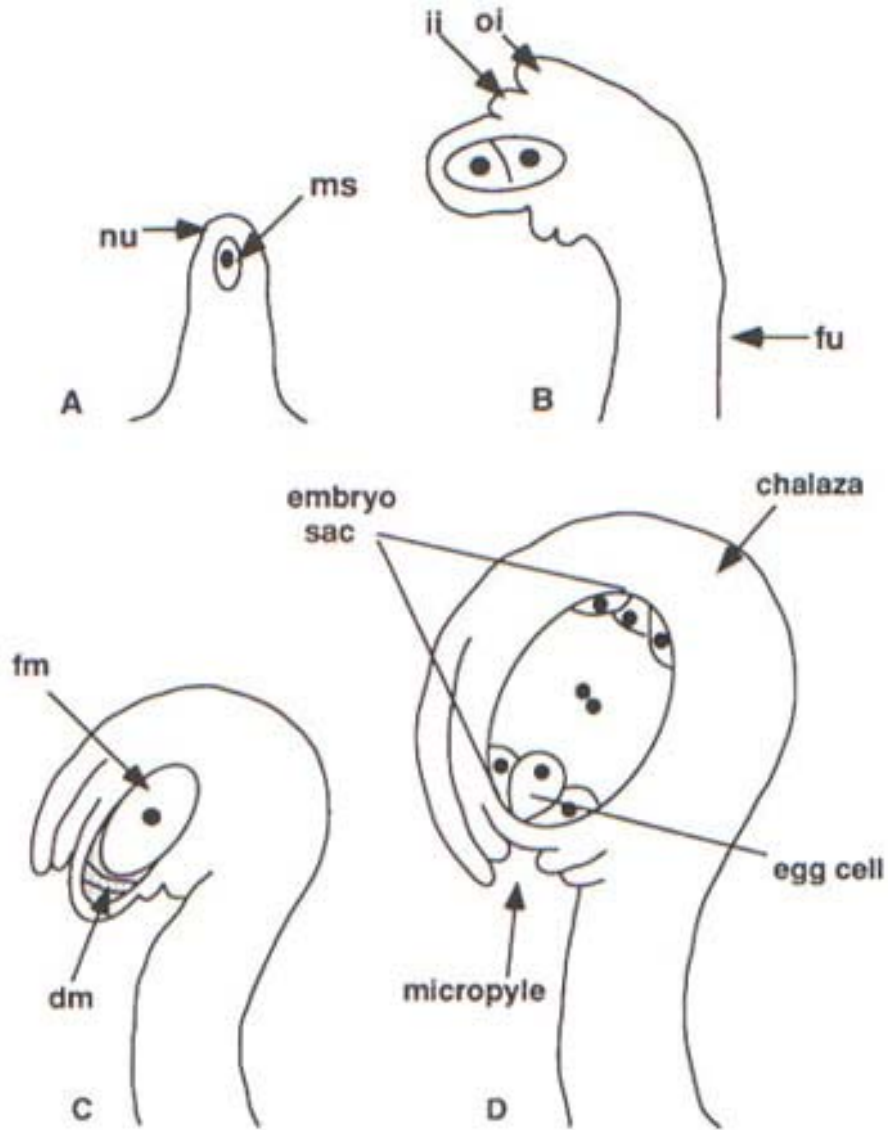




## A Mature Male Gametophyte of a Flowering Plant



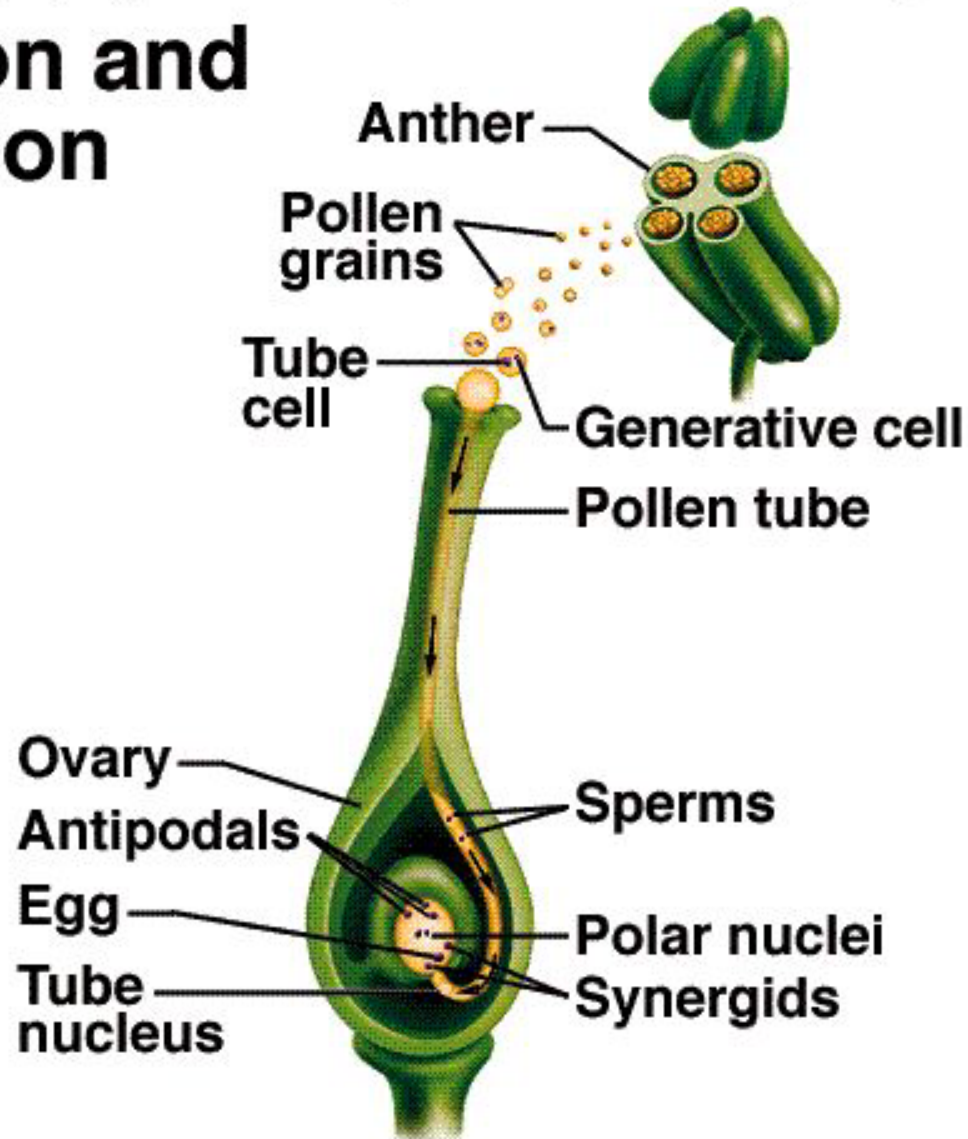
# Megagametophyte



# Pollination & Double Fertilization

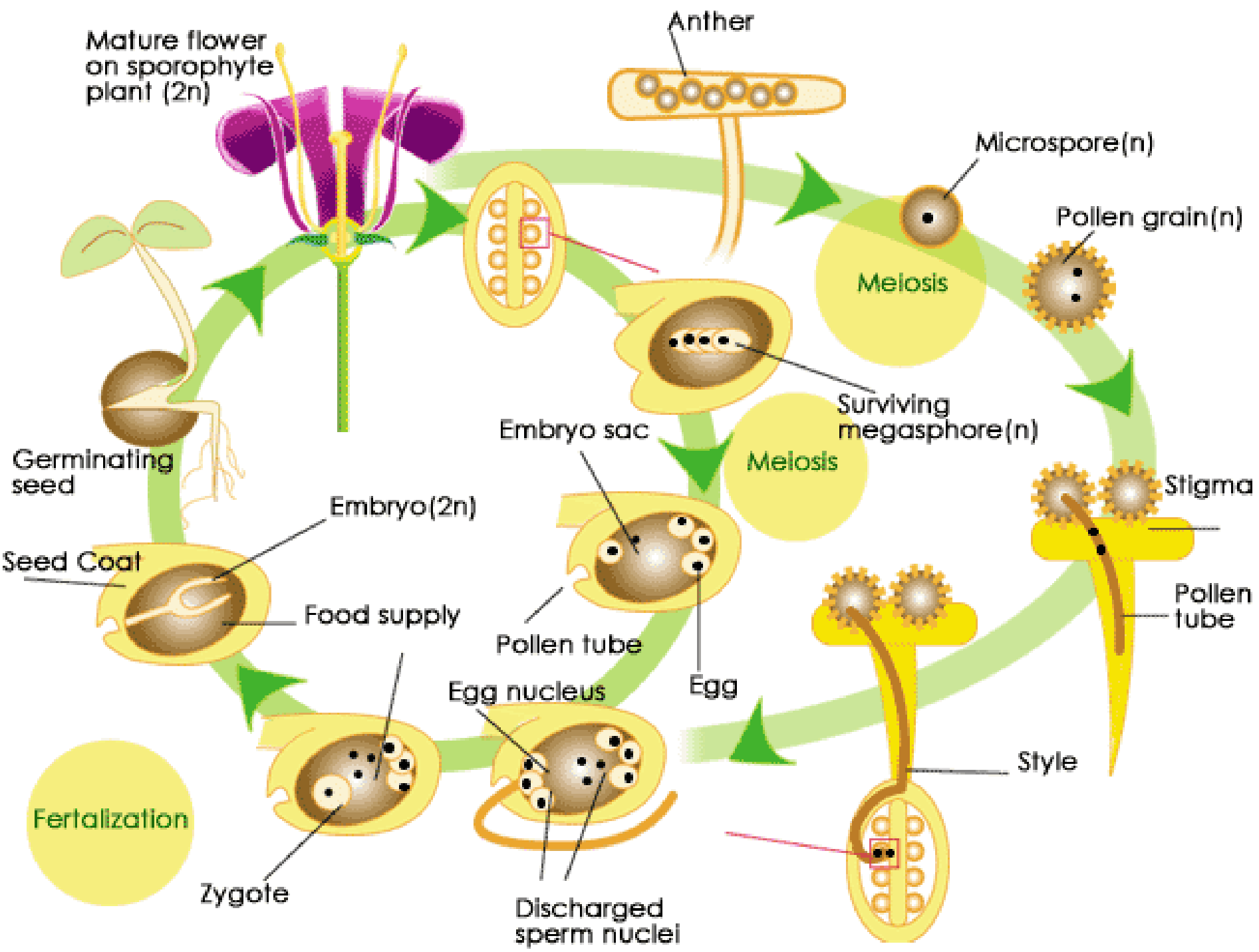
Randy Moore, Dennis Clark, and Darrell Vodopich, Botany Visual Resource Library © 1998 The McGraw-Hill Companies, Inc. All rights reserved.

## Pollination and Fertilization



# Embryo







# Primitive Flowers



***Magnolia***

# **Primitive Flower Characteristics**

- **Large, showy**
- **Many parts, spirally arranged**
- **Floral parts free**
- **Insect (beetle) pollinated**
- **Laminar stamens**
- **Conduplicate megasporophyll**

# Reduction & Fusion



**vs.**



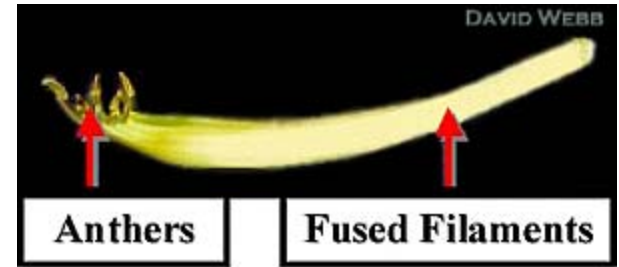
**vs.**



# Reduction & Fusion: Stamens



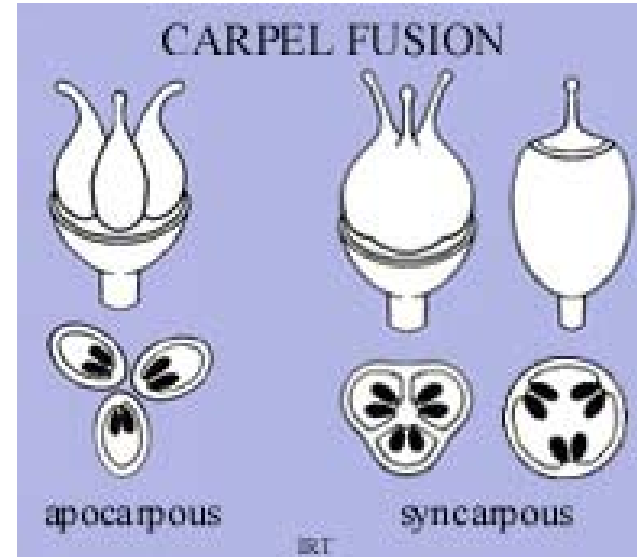
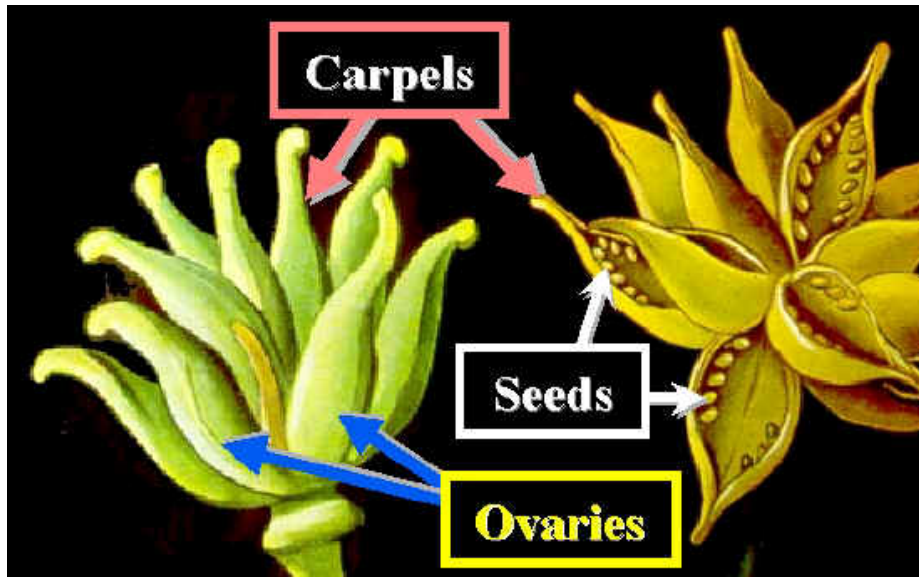
**vs.**



**vs.**



# Reduction & Fusion: Carpels

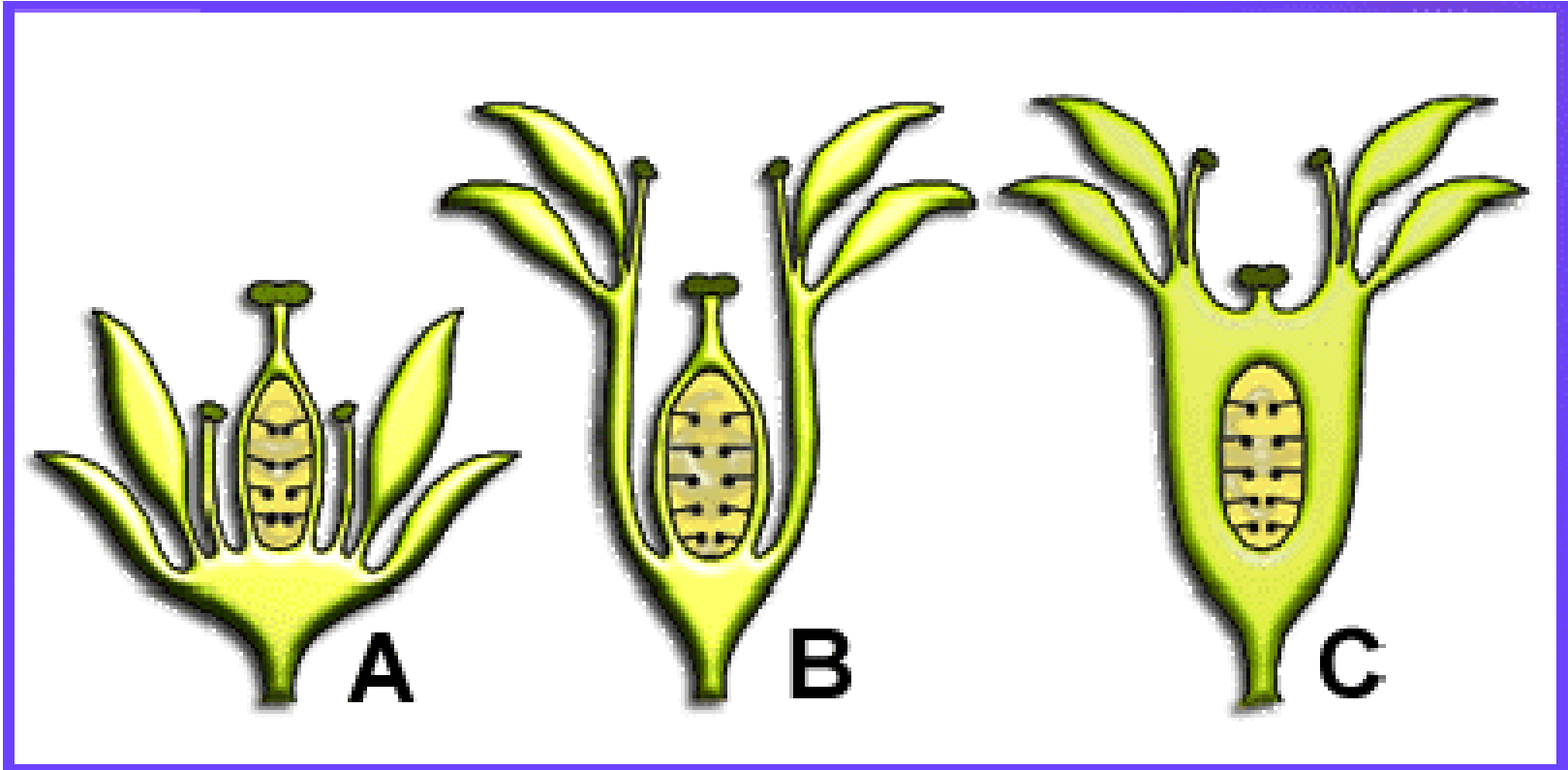


# Superior vs. Inferior Ovaries

Hypogynous

Perigynous

Epigynous



**A**

**B**

**C**

**Superior**

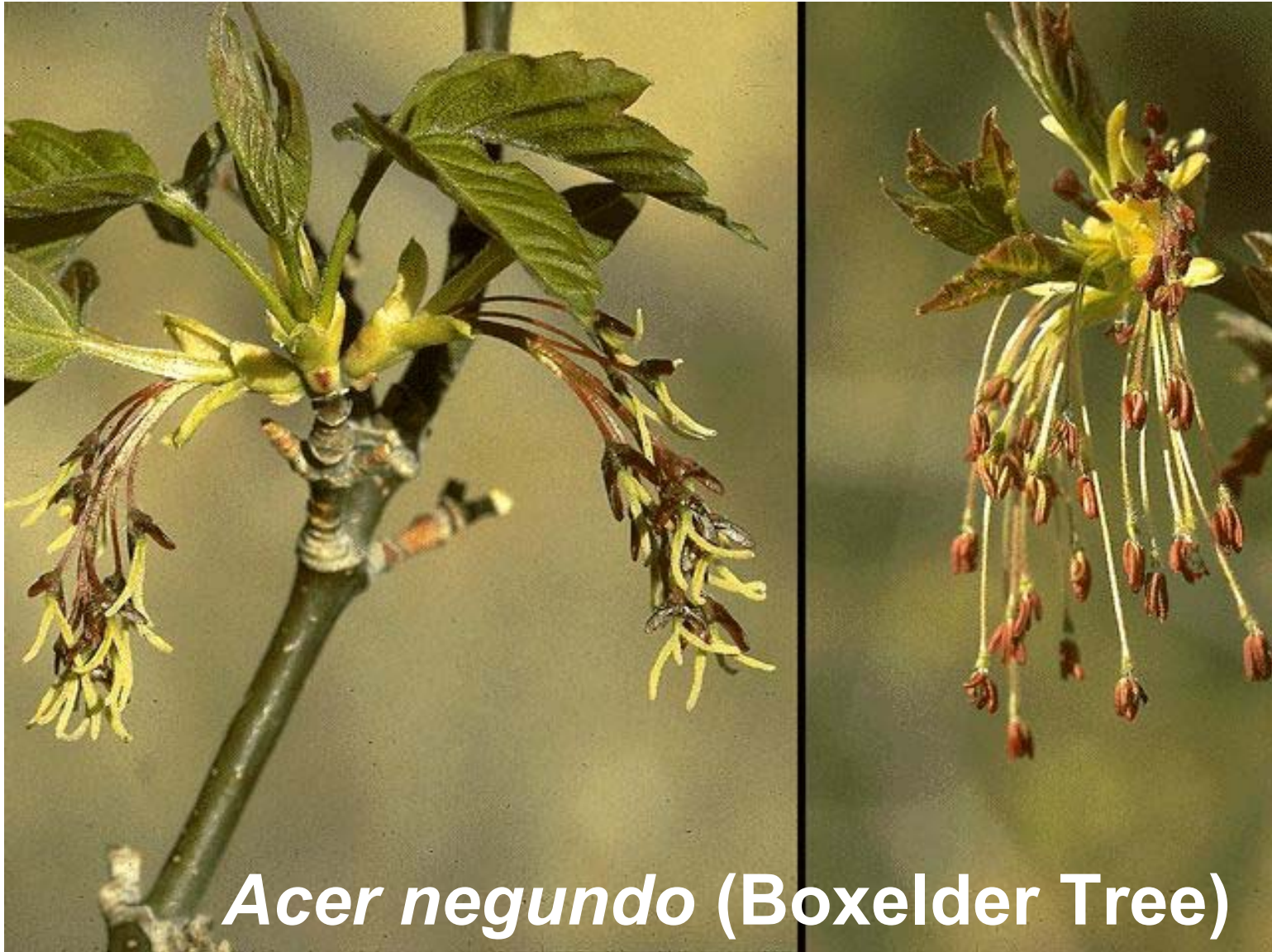
**Superior  
(Hypanthium)**

**Inferior**

# Flower Sexuality - Bisexual



# Flower Sexuality - Dioecious



*Acer negundo* (Boxelder Tree)

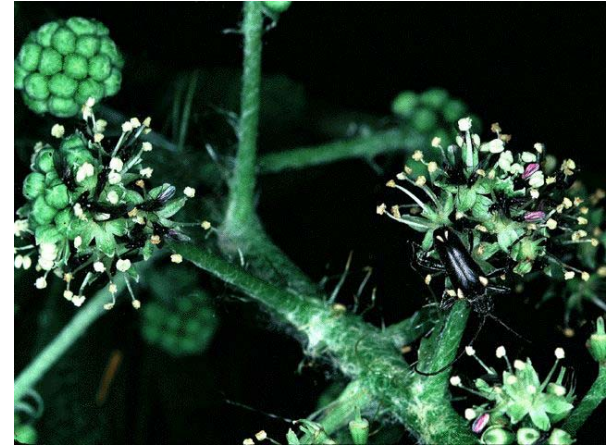


# Flower Sexuality - Monoecious



*Jatropha*

# Pollination by Animals



# Nectararies



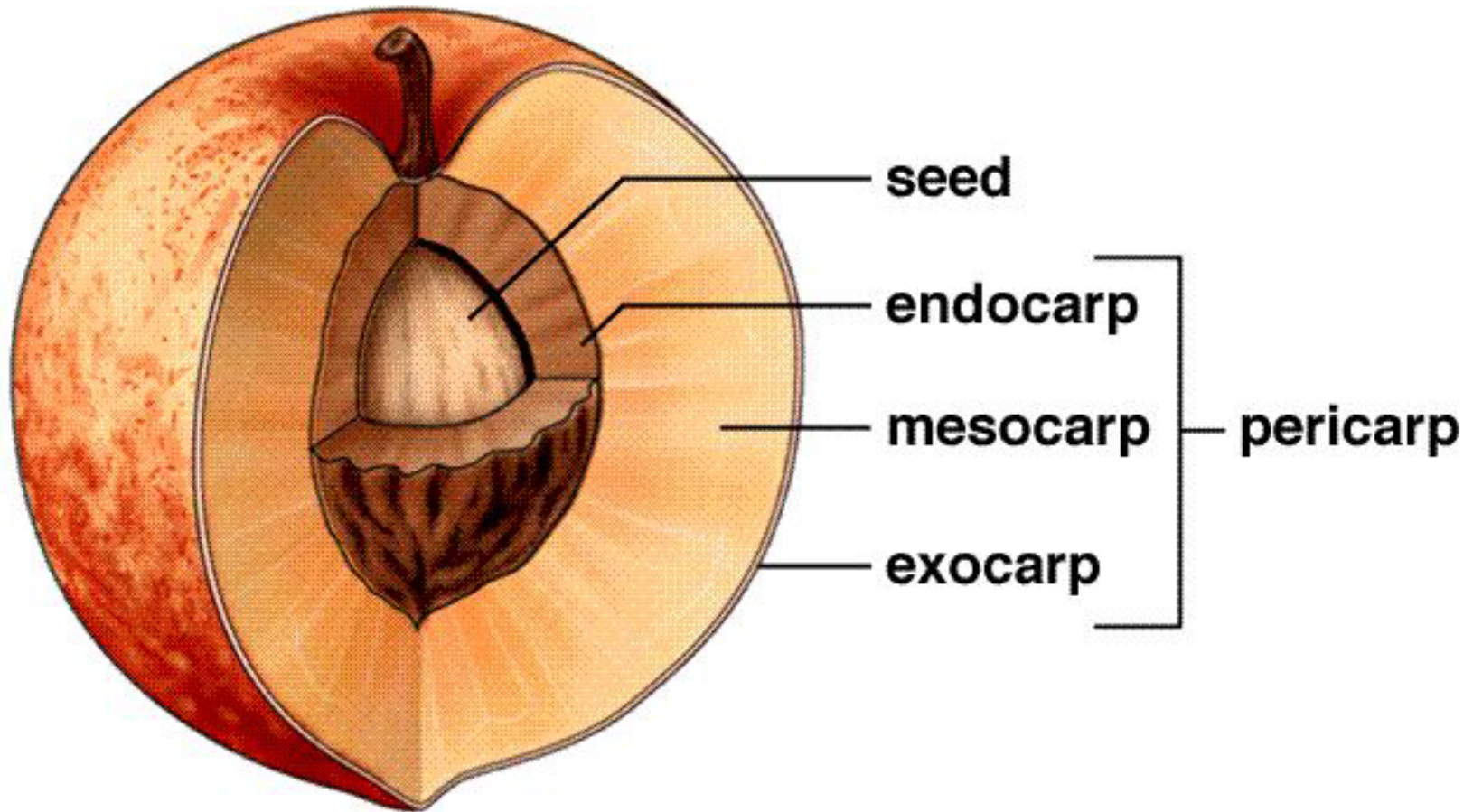
# Wind Pollination



# Fruits and Seeds

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## Regions of a Mature Fruit



# Simple, Fleshy Fruits



**Berry**

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remnants of calyx

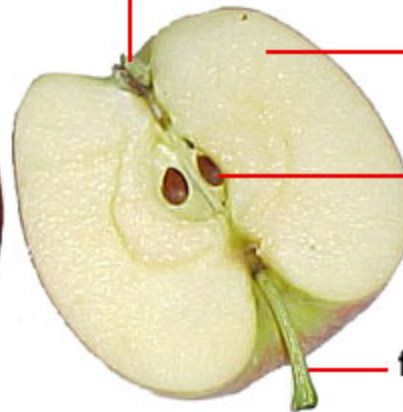
hypanthium

seed within ovary (core)

flower stalk (pedicel)

**Drupe**

**Pome**



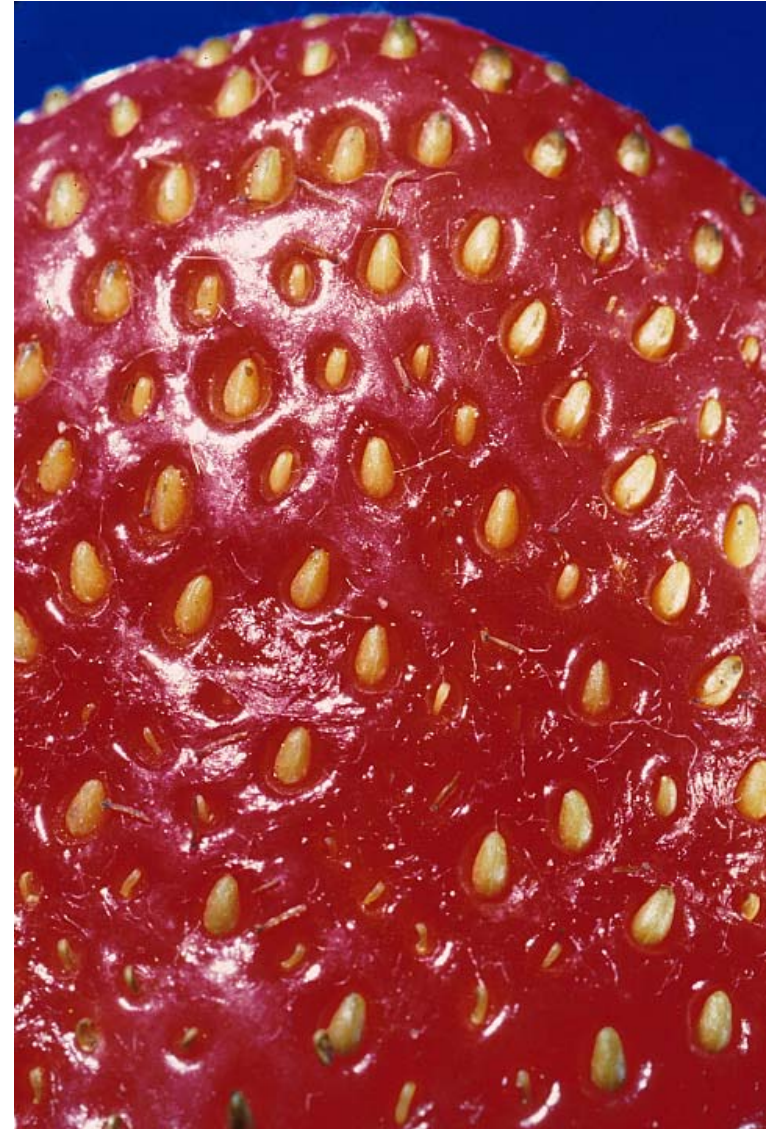
Pome (ovary surrounded by fleshy hypanthium)  
e.g. apple (*Malus domestica* cv. 'gala')

# Aggregate, simple, fleshy fruits



**Aggregate of drupelets**

**Aggregate of achenes**



# Multiple, Fleshy Fruits



***Annanas* (pineapple)**

***Ficus* (fig)**





# Dry Fruits

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## Types of Seeds and Fruits Dispersed by Wind



**dandelion**



**maple**



**tumbleweed**



**poppy**



**orchid**



**cottonwood**

# Dry, Indehiscent Fruits



***Acer* (maple)  
schizocarp**



***Quercus* (oak)  
acorns**

***Zea* (corn)  
caryopsis**

# Dry, Dehiscent Fruits



***Asclepias***  
**(milkweed)**



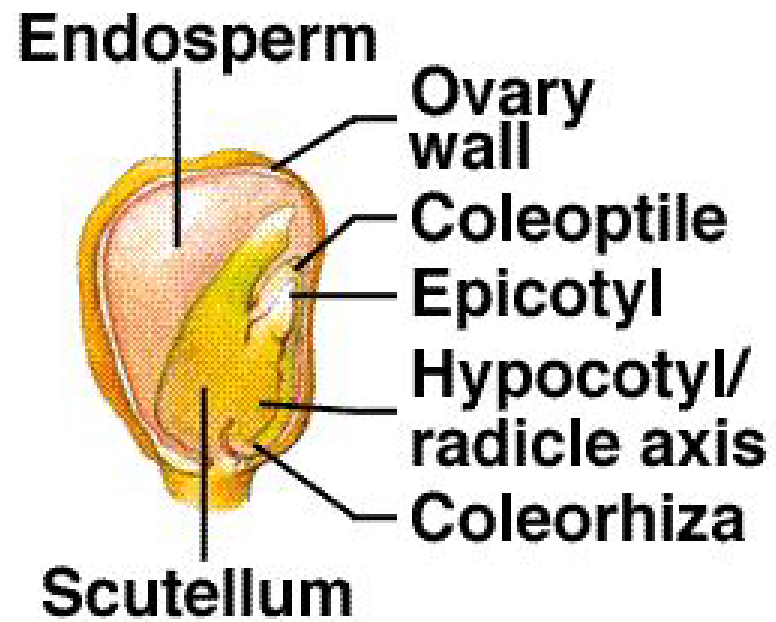
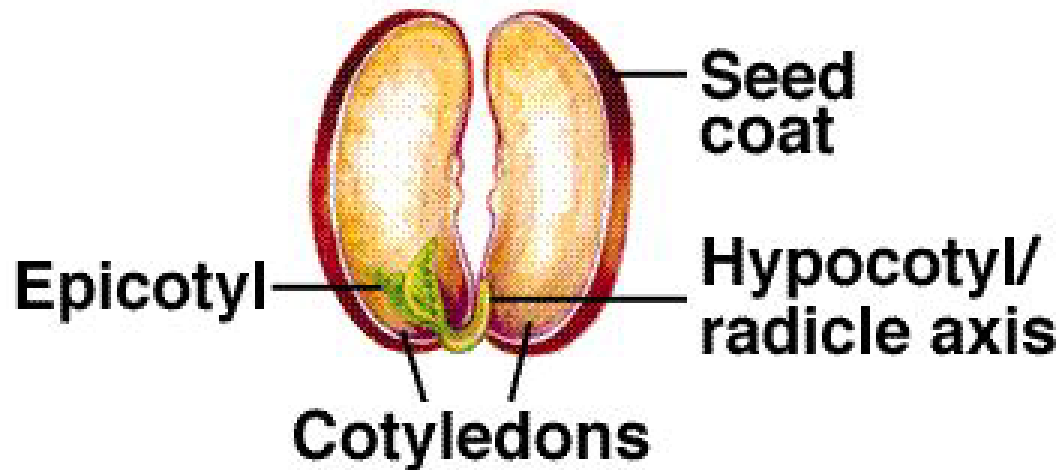
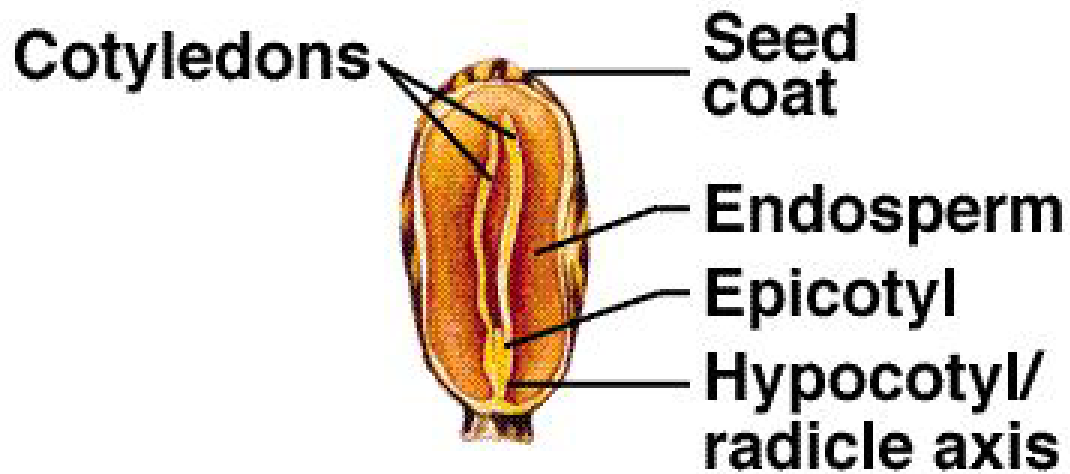
**Fabaceae**  
**(legumes)**

***Iris***



***Lagerstroemia***  
**(Crepe myrtle)**

# Seeds



# Edible Fruit Examples



***Solanum* (tomato)**

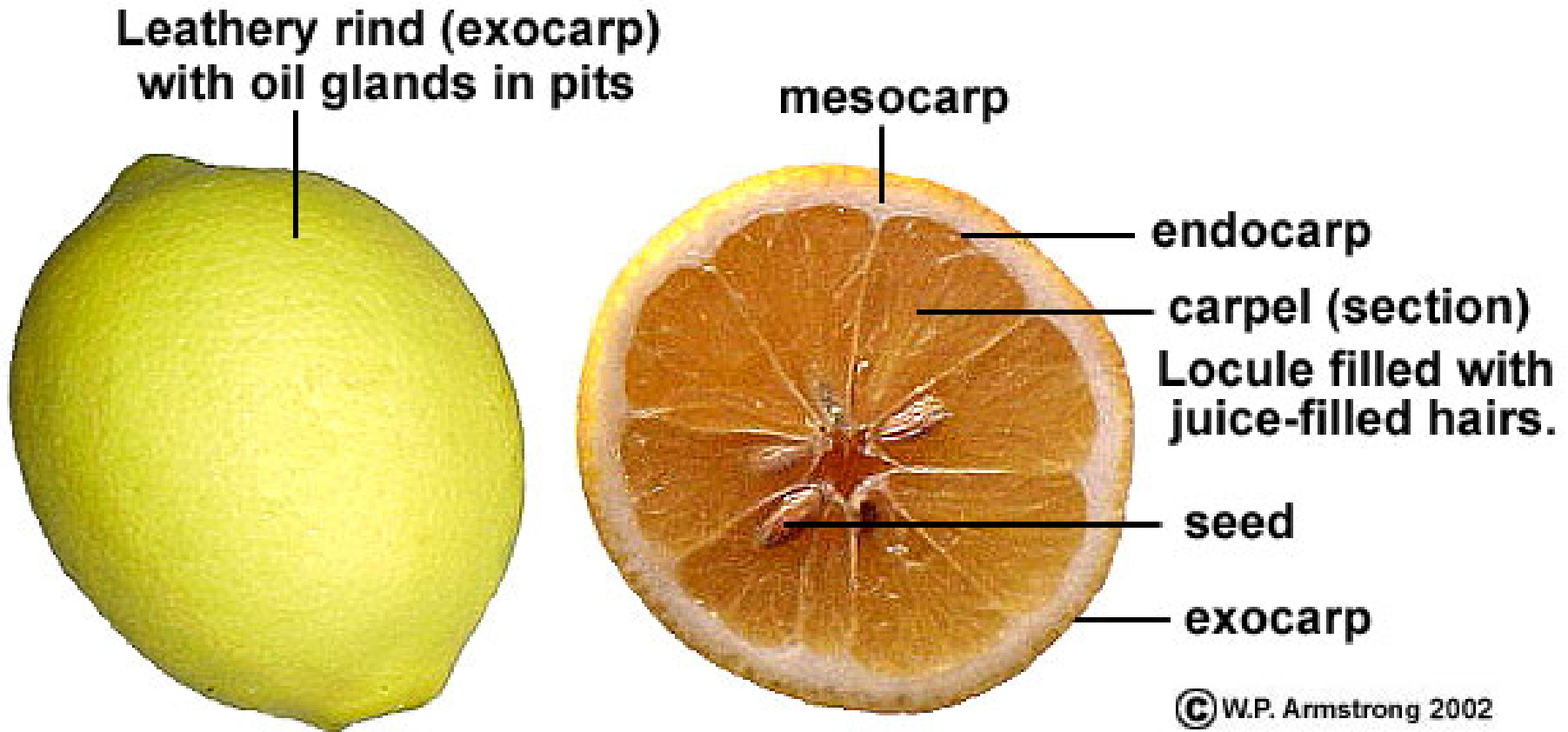
# Apples (*Malus*)



**Inferior  
ovary**



# *Citrus*



**Hesperidium (berry with a leathery rind)  
e.g. lemon (*Citrus lemon*)**

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# *Castanea* (Chestnuts)



**Monoecious**