

Reproduction in Angiosperms
PMB102/IB 102
October 13, 2009

- Reproductive phase marks profound change in development of a plant
 - Generalized view of events
 - determinate vs. indeterminate
 - cessation of leaf production
 - major reorganization of apex
 - increase in mitotic activity in the corpus region of apex
 - apex changes shape
 - sepal, petal, stamen and carpel primordia initiate sequentially
 - contribution of apical layers
 - sepals...same as leaf
 - petals, stamens, carpels differ
 - The Floral Stimulus
 - originates in leaf
 - current evidence suggests the stimulus is a protein known as flower locus T protein = FT protein
 - moves to meristem
 - likely acts directly on primordia
 - best evidence is from chimeric primordia
 - Are floral organs always distinct from each other? Is there a basic floral organ primordium? Sepals and petals show dorsiventral symmetry, similar to leaf primordium...stamens and carpels do not.
 - Transition to flowering
 - Signals
- Sequential activation of genes?
 - The "ABC" model of flowering
 - A = sepals; A+B = petals; B+C = stamens; C = carpels
 - Contrast a vegetative meristem showing repetitive behavior with a floral meristem showing a programmed sequence of changes.
 - Unisexual flowers
 - naturally occurring floral development "variants"
 - Speculations on the "origins" of Double Fertilization
 - views on the necessity of the Alternation of Generations cycle