

BOTANY LABORATORY INQUIRY PROJECT (BLIP)

BIO 2500 Laboratory

Topic Listing

Fall, 2010

Instructions: This is a cooperative learning group experience. Please consult your laboratory manual, Ex. #15, "Botany Laboratory Inquiry Projects" for purpose, instructions, and scheduled due dates. Select from the list below as you complete "Assignment #1" described in the manual.

BLIP Project Starters:

Field-Related Projects* – Projects of shorter duration but requiring action earlier in the semester:

1. What environmental factors influence development of prop roots in corn, *Zea mays*?
2. Do chlorophyll levels differ among genetic varieties of soybean (*Glycine max*) during pod fill?
3. Does variation in soil moisture influence leaf stomatal opening in a selected plant species?
4. Does a given agricultural weed species adjust its growth to compete with different crop species?
5. Can two closely related species be distinguished on the basis of their pollen morphology?
6. How does leaf morphology vary as a function of position within a tree crown?
7. Why does absence of chlorophyll in leaves or leaf portions influence temp. and gas exchange?

Indoor Projects – Projects less dependent upon seasonal changes and weather:

8. How do plants acclimate to decreased soil moisture?
9. What is the effect of daylength (photoperiod) on growth of *Brassica* (mustard) plants?
10. How does decreased soil moisture influence stomatal opening in soybean (*Glycine max*)?
11. How does light quality (λ) influence growth and development in soybean (*Glycine max*)?
12. In what way if any does touch or vibration influence plant growth and development?

*Due to the impending onset of unfavorable weather "Field-Related Projects" are preferred by groups who wish to complete their work earlier in the semester. Some "field projects" may switch to indoor approaches depending on your design.

First Due Date: Meet as a team, appoint a "project leader", discuss choices, and submit your list of four (4) preferred topics in ranked order; due **September 3** as explained in Lab Ex. 15. Remember, this is a cooperative group effort. Please be considerate of fellow group members and work toward an atmosphere in which the input of each member is welcomed. This will foster "ownership" and commitment for each member from the outset. Consultations are welcomed if deemed necessary by your group.