PLANT GROWTH LAB GUIDELINES

1. Each team is responsible for the care of their own experiment unless approved arrangements are made for substitute help. This includes careful handling of equipment entrusted to your use and clean-up of work areas after planting and harvest of plants.

2. Helping can be dangerous: Even if it seems to "need help", please do not interfere with another experiment because you may not fully understand their purposes.

3. If you need more equipment or supplies, please consult with Dr. S. or his lab assistant rather than having to search it out and creating disorder in the storage inventory.

4. Be alert to observe what is happening, keep precise records of date, observations, and other data in a "Log" within your journal.

5. Plants are sensitive: Handle them carefully because they are "sensitive" to touch, vibrations, and inadequate moisture levels.

6. Moisture can be bad!! When using seeds from a jar or packet, avoid getting moisture or soil on any seeds in the seed supply packets/jars. Close containers to keep dry.

7. Access to the lab: The door to ENS 112 will be left unlocked from 8:30 am to 5:00 pm on weekdays. Please use this time to maintain plants. After-hour or weekend work should normally not be required, but please consult with Dr. S to discuss additional arrangements.

8. Report any system malfunctions to Dr. S. immediately: call #7948 or 766-1331 (leave message if necessary). If urgent, and there is no answer at either number, call Public Safety.

9. Be sure lights and water are not left on in the laboratory when you leave, unless for a legitimate reason.

10. Consult with Dr. S. to determine a suitable termination time for your experiment.

Planting Procedure: General Suggestions

A. Before planting, you will be given an orientation to the Plant Growth Lab and general procedures and guidelines. Your group will also receive instructions on which seeds to plant (given your choice if possible). Select all of your seeds before preparing plant pots.

B. Planting Procedure: To be used with modifications as necessary to accommodate plant species, potting media, etc.

1. Carefully dispense the appropriate potting medium into a large container for ease in potting without spillage.

2. Have one person (for uniform technique) fill each pot without packing and scrape off the excess above the plane of the pot rim. Then, gently press the medium down to a level 2.5 cm (about 1 inch) below the rim. When finished, recheck pots for consistency.

3. Planting seeds: **Caution**: Keep seed supply dry–*e.g.* do not reach into seed supply with moist fingers–rather, pour out a small supply to draw from; don't return seeds to the dry supply jar; cap jar when finished.
   a. Small Seeds – first, use a sprinkling container to moisten the medium in your pots without roughening up the smooth surface. Then, place seeds appropriately spaced on the moist surface and cover lightly with unmoistened medium.
   b. Large Seeds – for corn, soybean, and other large seeds, make four planting holes in the surface of the potting medium in each pot, each 1.5 cm deep, using the eraser end of a pencil, or your index finger. Holes should be uniformly spaced in each pot and at least 1.5 cm from the nearest edge (rim) of the pot. Place one seed in the bottom of each hole and cover them with medium so as to provide good contact with the moist medium without packing (which can cause anaerobic conditions). If in doubt about technique, seek counsel as to firmness and position.

4. Add an appropriate measure of Osmocote® granules (see instructions on jar for your plant pot size). Spread granules evenly over the surface of the medium in each plant pot. **Caution:** Keep measuring spoon dry so as to avoid transferring moisture into granule supply in jar.

5. For large seeds, water each pot by distributing 100-150 ml of water evenly over the surface of the potting medium. Avoid disturbing the surface which can uncover seeds.

6. Place your plant pots in a designated location in consultation with Dr. S. You may be advised to cover your pots loosely with cellophane to retain moisture while germination is occurring. Cellophane can be removed when seedlings emerge.

3. Watering Procedure: As young seedlings grow, watering every 2 or 3 days should be sufficient. To assess moisture needs, you can judge by how dry the surface of the medium is. It will be the driest place in the whole volume of medium. As plants emerge and develop more and more leaf area, you may plan to thin down to one plant per pot so as to produce a uniform set of plants in each of your treatments. Divide up responsibility among team members for maintaining the plants and recording observations.