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# **Principles of proper watering**

## **Manual for researches using Plant Sciences Core Facility**

Based on "Best Practices for researchers using Biotech Support Facility & Rightmire Hall Growth Chambers and Greenhouse". The Ohio State University. <http://slideplayer.com/slide/3989851/>

- ❖ Arabidopsis is not aquatic!
- ❖ Overwatering is #1 cause of plant diseases, pest problems and plant death! Too much – too often.
- ❖ Overwatering weakens roots and allows pests and diseases an opportunity.
- ❖ Never leave plants in a tray with standing water. Soil will reach saturation within 10 minutes – excess water in trays after this will only weaken the plants.
- ❖ Green algae growing on soil surface is sure indication of overwatering (see pictures below).



## QUANTITY

- ❖ Don't add water to trays which are covered with transparent covers due to very low evaporation (nearly no) and low light intensity under them.
- ❖ Remove transparent covers from trays after 4 - 6 days.
- ❖ Only water pots that are dry instead of the whole tray.
- ❖ If bottom watering of the whole tray with pots, add water to cover bottom of pots (1.0 - 1.5 cm). This water should get taken up within a few minutes. If not, then plants were not thirsty.
- ❖ Pour off excess water after 10 minutes.

- ❖ Never leave plants standing in water longer than 30 minutes. Water not used in 30 minutes will deprive roots of oxygen.

## FREQUENCY

- ❖ Check plants daily but only water when needed.
- ❖ Water individuals when dry rather than watering all pots in tray at the same time.
- ❖ Don't follow a rigid watering schedule.
- ❖ Avoid "watering insurance"
  - This is overwatering to compensate for not checking on plants daily.
  - Heavy watering on Friday will make sure plants don't need water over weekend and possibly even until following Friday or longer!
  - No need to overwater to make it through the weekend. A well-watered plant on Friday will be fine on Monday.