

Sampling Soil Solution from Lysimeters (SSATs)

NOTE: This is a 2-Day Procedure

Day 1 Materials:

- 2-3 clean 60mL syringes
- Hand-pump
- 32 - 60mL bottles and caps
- Labels
- Sharpie

Procedure - *In the Field - Adding Tension*

1. Release any residual tension by unclamping the tube and purge any water from the lysimeter
2. Attach the hand-pump and pump to 70 centibars and clamp the tube closed.
3. Repeat for all lysimeters. Leave tension on until the following day.

In the Lab –Washing Bottles and Syringes

1. When you return to the lab, rinse 60mL bottles and caps in DI Water and leave to try overnight.
2. Wash four 60 mL syringes in DIW and leave to dry overnight.

Day 2 Materials:

- 4 syringes labeled rye, radish, radish+rye, and bare
- 68 x 60mL bottles and caps (Divided into 2 sets of 34 and placed in polybags)
- 2 sharpies
- Ziplocks
- Field Notebook
- 2 L DI water
- Cooler and ice packs (if it is a hot day)

Procedure - *In the Field – Collecting samples*

1. Release the tension from a lysimeter by unclamping the tube. If it collected water, you will hear a little gurgle.
2. Attach the syringe and pull up on it to remove the water.
3. Squirt the water into a 60mL bottle. If there is enough sample, you can use a small amount of sample to “wash” the inside of the bottle. Pour this water in the center of the field; NOT in a plot).
4. Fill the bottle and/or remove all the water from the lysimeter. **Write the lysimeter number and date on the bottle with a sharpie.**
5. Release any residual tension from the lysimeter. Listen for a hiss of air.
6. Remove the stopper and pour about 10 mL of DI water into tube.
7. Place the water samples in the cooler.
8. Repeat for all lysimeters.

In the Lab – processing samples

9. Re-label lysimeters once back in the lab with all relevant information using pre-printed labels or lab tape.
10. Freeze samples after they are labeled.

Notes:

Some lysimeters lose tension quickly, so it is advisable to keep tension on them and then return after you are done collecting the other samples. In some cases, you can even wait an hour to check to see if water has been collected.

Make note of any unusual or troublesome lysimeters in the Field Notebook.