Mini-disk Tension Infiltrometer Materials and Instructions

Materials

- Tension Infiltrometer
- Sorptimeter (metal or PVC cylinder)
- Hammer
- Water
- Stopwatch
- Wooden board
- Core

- 2 zip lock bags
- Trowel
- Marker (for labeling)
- Pencil
- Datasheet
- Clipboard

Procedure

- Collect a core outside of the area where you are testing infiltration rate to calculate bulk density and volumetric soil moisture (see directions for measuring these). Both may impact your study.
- 2) Fill the upper chamber with water. To keep water from escaping, keep the upper tube pushed down as far as it can go.
- Fill the lower chamber by pulling off the disk and fill it up with water. Then replace the disk.
- 4) The top of the lower tube should be equal to the water level in the upper chamber. If it is not, you must fill it up.
- 5) Pull the upper tube up until the last line is equal to the water surface (1 centimeter of tension).
- 6) Clear the soil surface around the area you are testing. Remove any material that will interfere with the test. The infiltrometer needs good contact with the surface.
- 7) Record the initial water level in the tension infiltrometer in the data sheet
- 8) Put the infiltrometer firmly up against the surface and hold it there. Simultaneously, start the stop-watch. Make sure there is

good contact between the infiltrometer and the surface.

- 9) Every minute take a measurement. Record in the datasheet.
- 10) When you have the same change per minute (column D) for 5 minutes and the number appears steady, stop the test.
- 11) Check the area beneath the disk. Make sure the whole area looks saturated and not only part of it. If it is only partly saturated, then discard the test.
- 12) Scoop a small amount of soil from directly underneath the disk at the surface. Put this in a plastic bag to calculate gravimetric soil moisture (see instructions).

Date:	Radius of the infiltrometer (cm):
People:	Cross-sectional area of infiltrometer (cm ²):
Location:	Core Volume = 147.26 cm ³ (if 7.5 cm core)

Initial Soil Moisture							
Α	В	С	D	E	F	G	Н
Mass of Meas. Container in grams	Mass of Wet Sample + Container in grams	Mass of Wet Sample	Mass of Dry Sample + Container in grams	Mass of Dry Sample	Mass of Water	Gravimetric Soil Moisture	Volumetric Soil Moisture
Measured	Measured	Col A – Col B	Measured	Col H – Col E	Col G – Col I	Col J / Col I	Col J / Core volume (above)
Initial Moisture							
Final Soil Moisture							NA

Time in seconds	Measurement in milliliters	Change in level milliliters (or cubic centimeters)	Change in infiltration in centimeters	Change in Time from last measurement in seconds	Infiltration Rate in centimeters per second
A	В	С	D	E	F
Measured	Measured	Measured	Col. C / Cross- sectional area	Col A (current row)- Col A (current row)	D/E

Time in seconds	Measurement in milliliters	Change in level milliliters (or cubic centimeters)	Change in infiltration in centimeters	Change in Time from last measurement in seconds	Infiltration Rate in centimeters per second
Α	В	С	D	E	F
Measured	Measured	Measured	Col. C / Cross- sectional area	Col A (current row)- Col A (current row)	D/E