

3. Infiltration Test

The infiltration test is generally performed after the **first** respiration measurement. The same 6-inch diameter ring left in place from the soil respiration test can be used for the infiltration test. If soil respiration was not determined, follow the instructions in Step 1 of the soil respiration procedure (Chapter 2) for inserting the 6-inch diameter ring.

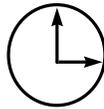
Materials needed to measure infiltration:

- **6-inch diameter ring (left in soil from respiration test)**
- **plastic wrap**
- **500 mL plastic bottle or graduated cylinder**
- **distilled water**
- **stopwatch or timer**

Considerations: If the soil is saturated, infiltration will not occur. Wait for one or two days to allow for some drying. Also, if the respiration test is not performed

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Remove Wrap and Record Time



- Remove the plastic wrap by gently pulling it out, leaving the water in the ring (**Figure 3.2**). **Note the time.**
- Record the amount of time (in minutes) it takes for the 1" of water to infiltrate the soil. Stop timing when the surface is just glistening.
- If the soil surface is uneven inside the ring, count the time until half of the surface is exposed and just glistening (**Figure 3.3**).
- Enter the amount of time in minutes on the Soil Data worksheet.



Figure 3.2

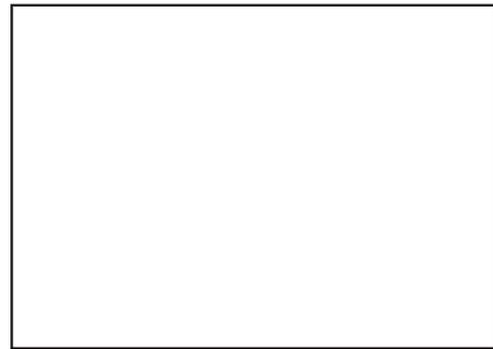


Figure 3.3

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Repeat Infiltration Test

In the same ring, perform Steps 2, 3, & 4 with a second inch of water. On the Soil Data worksheet, enter the number of minutes elapsed for the second infiltration measurement. If soil moisture is at or near field capacity, the second test is not necessary.

[The moisture content of the soil will affect the rate of infiltration; therefore, two infiltration tests are usually performed (if soil is dry). The first inch of water wets the soil, and the second inch gives a better estimate of the infiltration rate of the soil.]

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Replace Lid

If a second respiration measurement will be performed, set the lid loosely on the ring and leave it covered for preferably 16 to 24 hours (6-hour minimum) before beginning the second test (Chapter 2). (Remove lid and replace it before beginning the second soil respiration measurement).



Reminder: If you still need to perform the second respiration measurement, remember to loosely place the lid back on the ring before leaving the field.