

## Rainfall Infiltration Kit



# Single Ring Infiltration Instructions



## Materials needed to measure infiltration:

- 6-inch diameter ring, 5.25 inches in length
- Plastic wrap
- 16.9 oz bottle of water
- Block of wood
- Hand sledge hammer
- Water
- Stopwatch or timer

## Background

Infiltration rates change throughout the year with changes in soil temperature and moisture which effects biological activities, as well as other physical characteristics, such as shrink swell. Timing of sampling needs to correspond with periods of adequate soil moisture and active plant growth. For cool season plant communities, this time frame should be during the months of April, May, and June. For warm season plant communities, sampling should occur in May, June, and the first half of July. In annually planted cropland sampling should be done only after the crop is established and actively growing. If the soil is saturated, infiltration will not occur. Wait for one or two days to allow for some drying to occur.

### 1. Drive Ring Into Soil

- The infiltration test should mimic field conditions as close as possible. Uniform residue or surface litter that represents the field should be left intact. Clear the sampling area of large pieces surface residue, etc. If the residue is wet and hair-pins when the ring is driven, remove and replace the residue. If the site is covered with vegetation, trim it as close to the soil surface as possible.



Figure 3.1

- Using the hand sledge and block of wood, drive the 6- inch diameter ring, beveled edge down, to a depth of 3 1/4 inches (two inches remaining above ground) Figure 3 .1.
- If the soil contains rock fragments, and the ring cannot be inserted to depth, gently push the ring into the soil until it hits a rock fragment. Measure the height from the soil surface to the top of the ring in centimeters (cm). [See note below]

### 2. Firm Soil

- With the 6-inch diameter ring in place, use your finger to gently firm the soil surface only around the inside edges of the ring to prevent extra seepage. Minimize disturbance to the rest of the soil surface inside the ring.

