



Lab Topic: Soil infiltration  
Class: Soil 210 Introduction to Soils  
Location: Kosel Family Agriculture Land Lab

Objective: To demonstrate the effect of management practices on soil infiltration.  
(we have spent time in "lecture" on soil water movement)

Prior to lab, students should have

- Read through the NRCS Soil infiltration lab guide <https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soils/soil-health/soil-health-educators-guide>
- Watched the video of the demonstration (located at same website)

Overview: Students will be divided into groups of 4. Each group will take the necessary supplies identified in the NRCS soil infiltration guide. Groups will set up the infiltration demonstration at a location in the no-till/cover crop area and one in the conventional tillage site. Record data in the NRCS lab guide for both sites.

Based on our class discussions and the infiltration results, groups will collaboratively answer the questions.

1. Compare the two sites that were sampled. Identify soil factors and practices at each site that affected the infiltration rate at that site.
2. How did each item listed affect infiltration rate at that site? (increase/decrease infiltration). Explain your answers to each.
3. Did the rate change from the first to the second inch of water? Why or why not?
4. Determine the rainfall pattern for eastern ND. How does the infiltration time compare with the expected amount of rainfall in this area?
5. Using your answers in question 4 and your knowledge of this specific field, would either site sampled be susceptible to runoff? Explain your answers.
6. How do the infiltration rates your group determined at each site compare to the steady-state infiltration rates given in Table 3 of the NRCS lab guide?

(This lab will be followed up with a rainfall simulator lab)