## OJT Training Module Cover Sheet

**Title:** 1210 How to conduct a soil compaction test

<table>
<thead>
<tr>
<th>Type:</th>
<th>X Skill □ Knowledge</th>
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</table>

**Performance Objective:** Trainee will be able to...
- Measure soil compaction using an impact penetrometer.

**Target Proficiency:**
- □ Awareness □ Understanding □ Perform w/ supervision
- X Apply independently □ Proficiency, can teach others

**Trainer Preparation:**
- Be familiar with the assigned reading and review material in the lesson plan that follows.

**Special Requirements:**
Never use the penetrometer near buried power cables or pipelines. Wearing earplugs and gloves is recommended. Always keep hands and feet away from the strike plate during operation.

**Prerequisite Modules:**
None

**Notes:**
Penetrometers are very sensitive, needing an adequate soil moisture content. Differences in soil series, soil textures, claypans, and other natural restrictions should be noted when comparing sites. Qualitative methods are often better suited. These methods include digging a hole and observing lateral root growth patterns, observing soil structure (platy structure vs. massive), noting poor plant vigor in compacted areas, and using a wire flag.

**Authors:**
- Johanna Pate
- Mike Kucera
- Craig Busskohl

**Approved by:**
- Shawn McVey
The Five-Step OJT Cycle for Procedural Training (Skill)

- **Cycle Step 1**: Trainer/Trainee establish shared mental model
- **Cycle Step 2**: Trainer observes task as Trainee observes
- **Cycle Step 3**: Trainer coaches as Trainee performs task
- **Cycle Step 4**: Trainer observes Trainee perform task and gives feedback
- **Cycle Step 5**: Trainer/Trainee debrief
### OJT Module Lesson

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<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
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</table>
| Cycle Step 1 | You and trainee review the objectives of the module. You and trainee read and review:  
  - Compaction test (Section II: Supplementary methods, Chapter 7)  
  - A sample location or a soil type with suspected compaction should be compared to another similar site that does not have compaction.  
  Note: An electronic copy of reference material can be downloaded from numerous sites. |
| Cycle Step 2 | Follow the steps provided in the Monitoring Manual for Grassland, Shrubland and Savannah Ecosystems, Volume II for a soil compaction test to compare sites:  
- Materials  
- Define hammer drop height to be used based on soil conditions present  
- Define maximum depth available based on soil conditions present  
- Select sample locations randomly  
- Determine soil moisture state (dry, moist, wet)  
- Record dominant vegetative cover class for each sample location  
- Check hammer drop height  
- Determine cumulative number of hammer strikes required  
- Safely remove the penetrometer from the ground  
- Maintenance of the cone  
- Soil Compaction-Impact Penetrometer Data Form  
- Compaction test indicator calculations |
| Cycle Step 3 | Coach trainee as trainee completes a soil compaction test. |
| Cycle Step 4 | Repeat Cycle Step 3 without coaching. |
| Cycle Step 5 | Provide feedback and debrief trainee. Reinforce specific items as needed until trainee is able to independently conduct a soil compaction test. |
# OJT Module Lesson Measurement of Learning

**Title:** 1210 How to conduct a soil compaction test

<table>
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<th>WHAT</th>
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<tbody>
<tr>
<td>Trainee's learning is measured.</td>
<td>During project activities, assign this task to the trainee. Sign off on performance when target proficiency is achieved.</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Follow-up should be done within 6 months to make sure training is retained.</td>
</tr>
</tbody>
</table>

## Performance Report Form

Complete attachment: Trainee Performance Report Form template.pdf

or

**SF-182**
Trainee and/or supervisor access AgLearn to verify completion of the module via its SF-182