Actual rain sensor dry out times compared to estimated soil dry out times

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• RS can **bypass** the timer settings, when there has been sufficient rain.
Expanding Disks
Question

Do the RS dry out periods match the soil dry out periods?
OBJECTIVES

a) Determine the dry out periods of 2 RSs
b) Estimate the dry out periods of 3 soil textures through a soil water balance model
c) Compare a) vs b)
MATERIALS AND METHODS

Location: On campus, UF, Gainesville, FL

Data collection period: Jan 1 – Dec 31, 2007
Weather Station

Tipping bucket (0.25 mm)

Data logger (m/d h:m:s)
Weather Station

Weather data

Software Ref ET
WAVE to simulate hourly soil water balance

Clay Loam

Loam

Sand
WAVE to simulate hourly soil water balance
RESULTS AND DISCUSSION
<table>
<thead>
<tr>
<th>Time (hh:mm)</th>
<th>Rain (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:00</td>
<td>1.5</td>
</tr>
<tr>
<td>19:00</td>
<td>0.3</td>
</tr>
<tr>
<td>20:00</td>
<td>0.3</td>
</tr>
<tr>
<td>21:00</td>
<td>1.3</td>
</tr>
<tr>
<td>22:00</td>
<td>1.3</td>
</tr>
<tr>
<td>23:00</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.8</strong></td>
</tr>
</tbody>
</table>

No runoff
Rain sensor vs soil-type dry out times (2007)

Time (h)

Winter (D-J-F) Spring (M-A-M) Summer (J-J-A) Fall (S-O-N)

- Toro
- Hunter
- Sand
- Clay loam
- Loam

Standard error bars
CONCLUSIONS

• The dry out periods of the tested RSs were shorter than those of the different soil types modeled

• RSs: limited usefulness under Florida conditions