### Selecting and Shopping for My Soil Moisture Monitoring System / Service

| Component            | Questions to Ask                                                                                                                                                                                                 | Notes |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------Adam Bosma. 2/12/14                                                                                                                                  |       |
| **Soil Moisture Sensors** | - Does it report soil water as centibars of tension or % water content?  
- Are they able to sense moisture at various depths and down to the bottom of my root zone?  
- Will it work in my soil type (i.e. gravel, sandy, loam or clayey)?  
- Will the measurements be impacted by salinity (i.e. fertilizer or other salts)?  
- Will the measurements be impacted by temperature?  
- Will it work for my irrigation system type? (Drip and micro spray – irrigate every 1 to 3 days. Sprinkler, furrow, border – irrigate every 4 to 14 days)  
- How difficult is it to install them in my soil?  
- How many monitoring sites will I probably need to represent my field?  
- Can it be installed or easily removed such that it’s safe from tillage and other equipment?  
- How long will it last and what maintenance is required?  
- How will I know if it is working properly (e.g. what will measurements look like if it is failing)?)?  
- What does it cost? |       |
| **Getting the data** | - Can I see the data on the unit?  
- Do I need to visit each site frequently to write down data or does it store it for occasional downloading?  
- Do I need special hardware or software to transfer the data to my computer or cell phone?  
- How frequently does it record data and how much data can it store (i.e. months)?  
- Can instantaneous readings be made (important if automatic sampling rate is less than hourly)?  
- Does it automatically overwrite the oldest data with new data when the memory is full?  
- Does it automatically send data elsewhere to be viewed or stored?  
- What maintenance is required (i.e. Battery life)?  
- Does it require reprogramming when without power for an extended time?  
- What does it cost? |       |
| **Processing and displaying the data** | - Do I have to make my own graph or does it create one automatically?  
- What does the data or graphing tell me about when to irrigate and how much to apply?  
- Can I input my irrigation dates and how much I applied?  
- Does the graph allow me to visualize the current moisture level in relation to field capacity, my target dryness and the amount of water I applied?  
- How well do the field capacity and target dryness levels represent my soil?  
- Can the software incorporate evapotranspiration (ET) data as from CIMIS?  
- Does it keep a running total of crop water use and water applications amount of water applied?  
- Will it work on my computer/ cell phone?  
- What does it cost? |       |
• Do I install and set up the system myself?
• Who do I call when I have problems with the hardware or software?
• Is help available for interpreting collected data?
• What is the upfront cost?
• What is the monthly cost?

Sample Desired Soil Moisture Data Display

(Q su %)

NRCS, Dan J, 2/12/14