Why Mess With Flow Meters?

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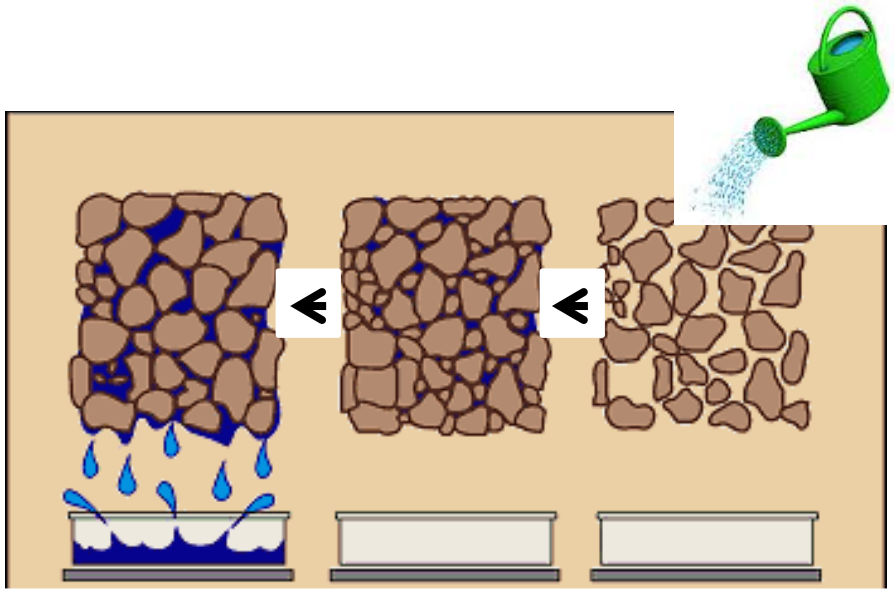
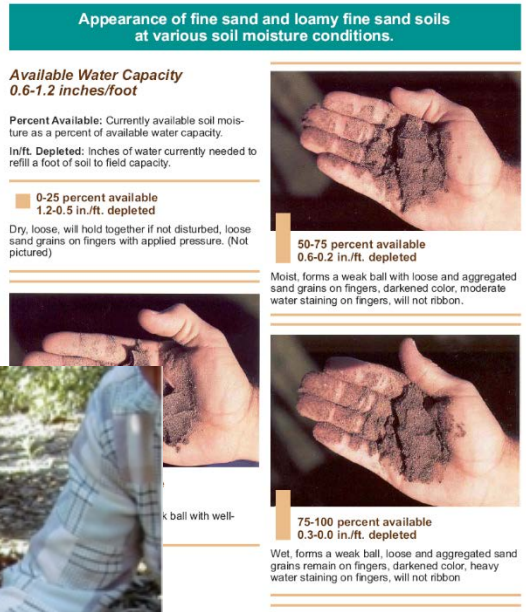
Why Keep Track of How Much Water You Apply?

- The soil can only hold so much water
- You want to know if the amount you apply stays in the root zone
- With this information you can compare the amount you applied to the <u>available storage</u>



How Can I Determine Available Storage?

- Direct soil moisture monitoring
- Climate based crop water use (estimating water removed from soil)
- Discussed in more detail by others



How Can I Determine Amounts Applied?

- OK - Using the irrigation system "application rate"

- Best - Using a flow meter

  (Also helps to I.D. system problems)

The Application Rate Method:

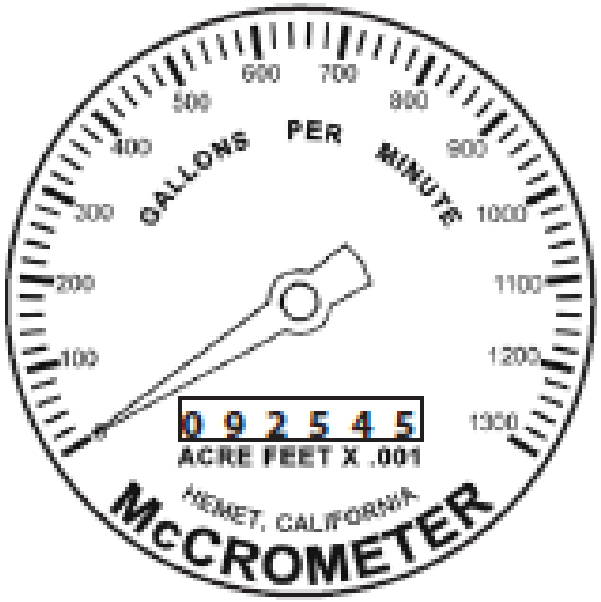
- Inches applied = Application Rate (inches/hour) X System Run Time (hours)

Example: 0.25 in/hr X 4 hr set = 1 inch application (estimate)

The Flow Meter Method:

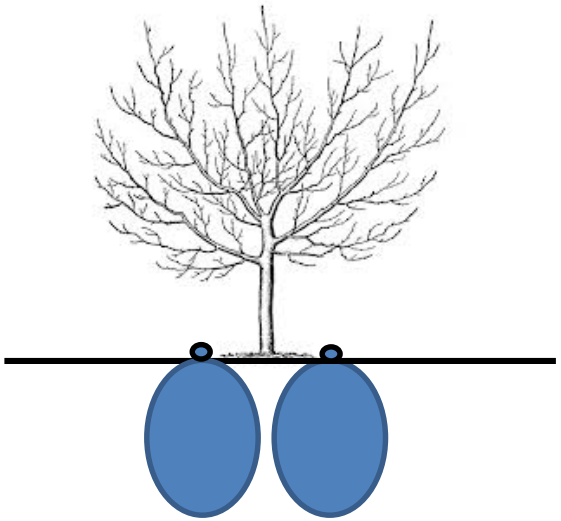
- Inches applied = Acre-Feet applied divided by the acres irrigated X 12 in/ft.

Example: 1.6 ac-ft X 12in/ft = 1.5 inch application
13 ac block



Available Storage - What If Only Part of the Soil is Wetted?

Available storage measured by direct soil moisture monitoring – Multiply by % of area wetted.



Example:

Measured available storage is 2 inches

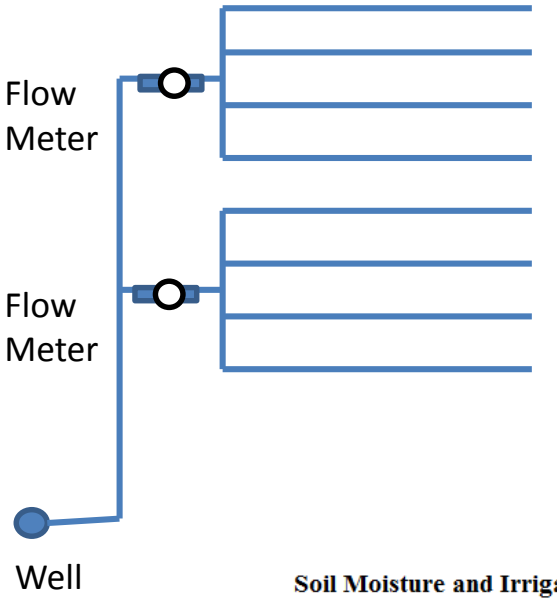
% area wetted is 60

Average available storage across the filed

= 0.60 X 2 = 1.2 inches

Available storage estimated by climate based method – No adjustment necessary

How Can I Collect and Record Data?



Soil Moisture and Irrigation Record

(High Intensity IWM)

Crop: _____ Planting Date: _____ Field: _____

[1]Date	[2]Average Rootzone Moisture Readings			[3]Estimated Soil Moisture Depletion (SMD) of Limiting Soil (inches)	[4]Threshold Depletion (inches or meter reading)	[5]Target Amount of Water to Apply (inches, gallons/plant, or hours)	[6]Actual Water Applied (inches)
	Site A	Site B	Site C