Irrigation Water Mgt. Considerations

SOM & Water management are connected (Soil Health is the key to water conservation)

For every 1% that you increase SOM
Waterholding capacity increases 20,000-25,000 gallons per acre

Know your soils

Inherent Plant Available Water:
Texture, Depth of Soil, Soil Layering, & Presence of Rocks
(Available water is largely an inherent soil property: So what can we do? Increase SOM thru implementation of a Soil Health Mgt. System)

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Soil Organic Matter (SOM) & Available Water Capacity

140 F Soil bacteria die
130 F 100% moisture is lost through evaporation and transpiration
113 F Some bacteria species start dying
100 F 15% moisture is used for growth
85% moisture lost through evaporation and transpiration
95 F
70 F 100% moisture is used for growth

SAND (0.05 – 2.0 mm)
Silt (0.002 – 0.05 mm)
CLAY (< 0.002 mm)

Soil Organic Matter (SOM) & Available Water Capacity

<table>
<thead>
<tr>
<th>Percent SOM</th>
<th>Sand</th>
<th>Silt Loam</th>
<th>Silty Clay Loam</th>
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<td>2.5</td>
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</tr>
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</table>

Inches of Water/One Foot of Soil
1 acre inch = 27,150 gallons of water

Figure 1. General relationship between soil moisture and texture. Ohio Agronomy Guide, 14th edition, Bulletin 472-05

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J.J. McIntire, WUIC, USDA-SCS, Kerrville TX, 3-58 4-R-12198. 1956

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(https://www.nrcs.usda.gov/wps/portal/nrcs/detail/nm/technical/?cid=nrcs144p2_068965)