

2011 CMDC

Water Management

Zoubek & Nygren

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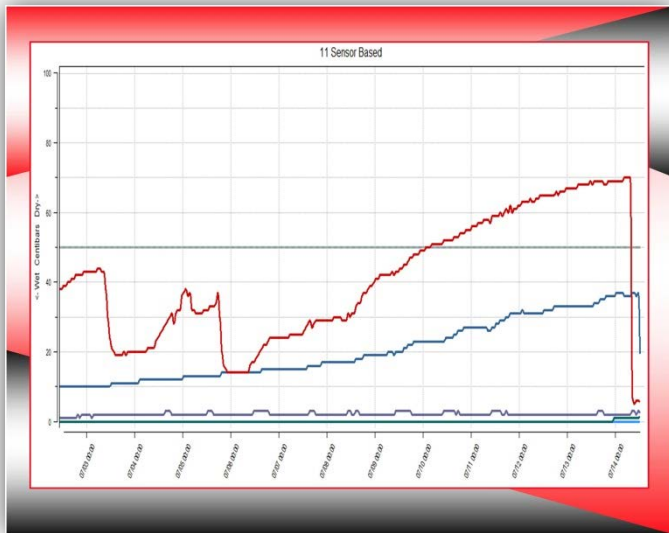
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2011CMDC-Zoubek (1)

Watermark™ Sensor Reading Calculator

Step 1. Select soil texture,
 Step 2. Input Watermark™ sensor centibar readings at the various soil depths.
 Step 3. Click 'Calculate' button.

1. Select Soil Texture (see >>)

2. Input Watermark™ Readings:
 70 1-foot depth:
 36 2-foot depth:
 1 3-foot depth:
 0 4-foot depth

3.

Only These Soil Texture Types Are Currently Calibrated for the Watermark™ Sensor:
Silty clay loam: Silty clay loam topsoil, silty subsoil (e.g., Sharpsburg)
Silt-loam: Silt-loam topsoil, clay loam subsoil (e.g., Keith)
Upland silt-loam: Upland silt-loam topsoil, silty clay loam subsoil (e.g., Hastings, Crete, Holdrege)
Bottomland silt-loam: (e.g., Wabash, Hall)
Fine sandy loam
Sandy loam
Loamy sand: (e.g., O'Neill)
Fine sand: (e.g., Valentine)

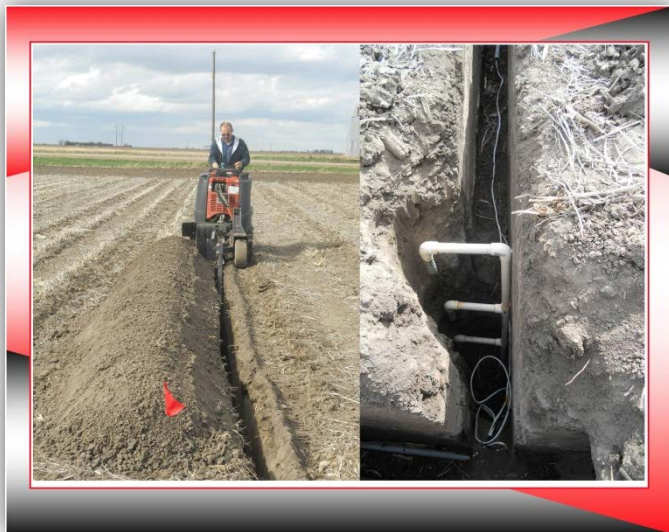
Click below to look at:
[Table - Watermark™ sensor centibar reading versus soil texture water \(inches\).](#)
 Click below to learn more about using:
[Watermark™ Granular Matrix Sensor to Measure Soil Matric Potential for Irrigation Management.](#)
 Source: Irnak et al. (2006)

CALCULATION OUTPUT:
 Average reading down to 3 feet: 36 >>Click the **blue Fonted Table text** in above box and compare the average reading here with the **GREEN-colored text** in the last line of the table for your soil type.

Water depleted per foot
 Inches water depleted/1-foot: 1.10
 Inches water depleted/2-foot: 0.57
 Inches water depleted/3-foot: 0.00
 Inches water depleted/4-foot: 0.00

Total water depleted (inches): 1.67

2011CMDC-Zoubek (2)



2011CMDC-Zoubek (3)

Automatic Weather Station Data

Site Name weekly ETgage data

Corn Soybean Wheat Sorghum Sunflowers Sugar Beets Dry Beans Potatoes Alfalfa

CORN Stage	Weekly crop water use for MEAD			
	07/13	07/13 to 07/07	07/07 to 06/30	06/30 to 06/23
V2	0.01	0.02	0.02	0.02
V4	0.03	0.03	0.04	0.04
V6	0.05	0.07	0.08	0.07
V8	0.07	0.10	0.12	0.10
V10	0.10	0.13	0.16	0.14
V12	0.13	0.17	0.21	0.17
V14	0.14	0.19	0.24	0.20
V16-Beginning Dent	0.16	0.21	0.26	0.22
Full Dent	0.14	0.18	0.23	0.19
Black layer	0.09	0.11	0.14	0.12
Full Maturity	0.01	0.02	0.02	0.02

2011CMDC-Zoubek (4)

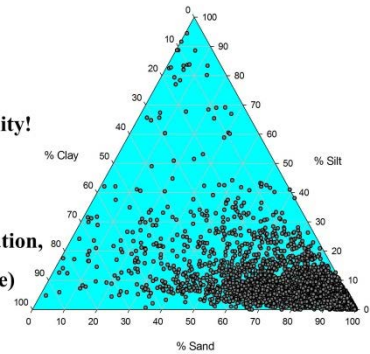
2011 CMDC PLOT DATA

Week	Rainfall	Etgage Change (Potential ET)	Crop Stage	Crop Coefficient	Crop ET	Irrig.
6/6	.08"	2.25"	V4	.18	.41"	
6/13	.10"	1.75"	V6	.35	.61"	
6/20	2.31"	1.35"	V8	.51	.69"	
6/27	2.45"	1.00"	V10	.69	.69"	
7/4	.75"	1.60"	V12	.88	1.41"	
7/11	.59"	1.20"	V14	1.01	1.21"	
7/18	_____	_____	VT	1.10	_____	1.00"

2011CMDC-Zoubek (5)

Criteria for sensor selection?

- SOIL TYPE!
- COST!
- Accuracy and reliability!
- Crop
- Response time
- Complexity (preparation, installation, service, use)
- Durability



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