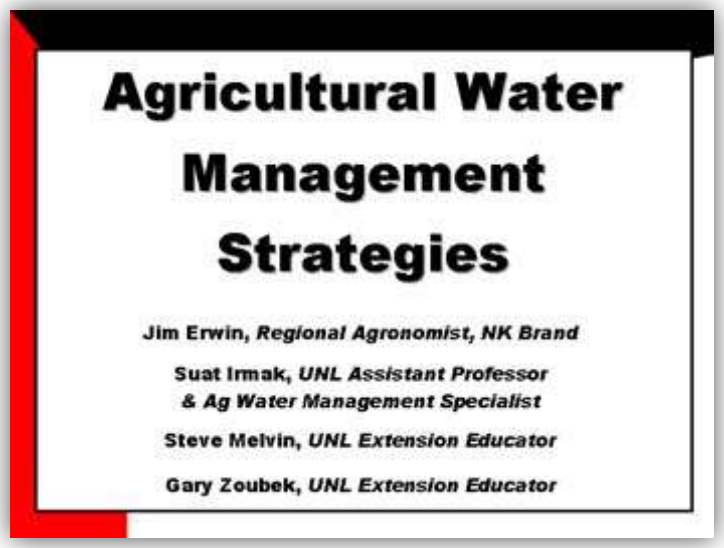
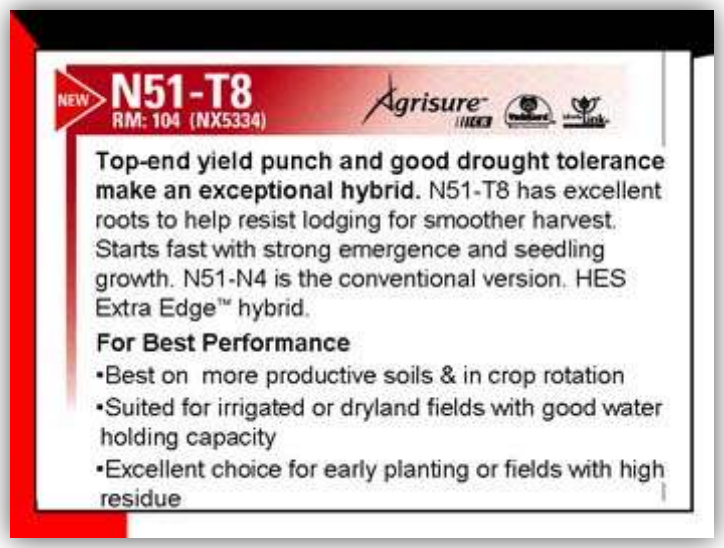
2006
Solution Days
Agricultural Water Management Strategies



2006soldays-water001



2006soldays-water002

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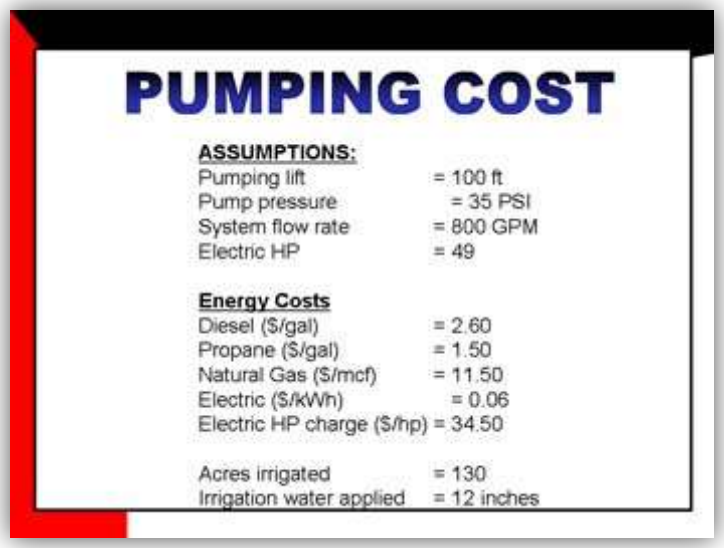

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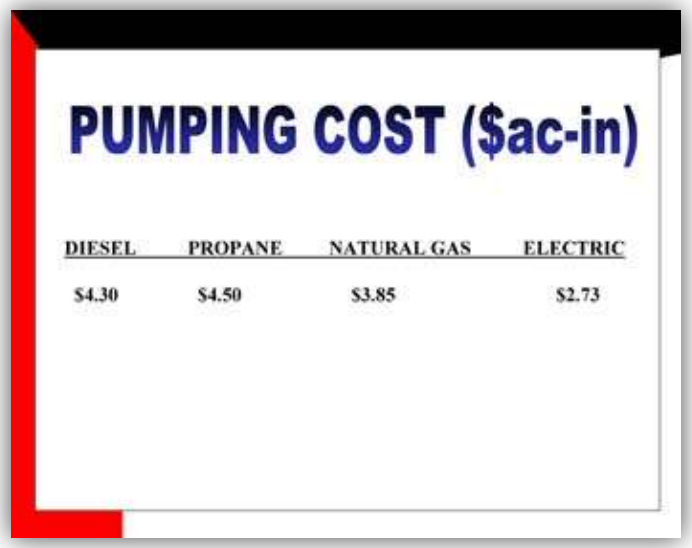


2006soldays-water008

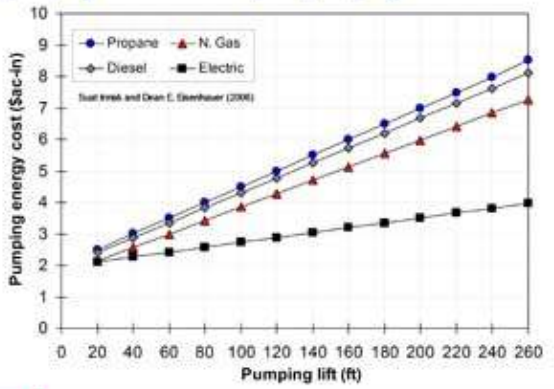
As pumping lift increases your pumping cost increases

P. lift (ft)	Diesel	$ac-in Propane	N. Gas	Electric
20	2.40	2.51	2.15	2.11
40	2.87	3.01	2.57	2.26
60	3.35	3.51	3.00	2.42
80	3.83	4.00	3.43	2.57
100	4.30	4.50	3.85	2.73
120	4.78	5.00	4.28	2.88
140	5.25	5.49	4.71	3.04
160	5.72	5.99	5.13	3.19
180	6.20	6.49	5.56	3.35
200	6.68	6.99	5.98	3.51
220	7.15	7.49	6.41	3.66
240	7.63	7.98	6.86	3.81
260	8.10	8.53	7.26	3.97

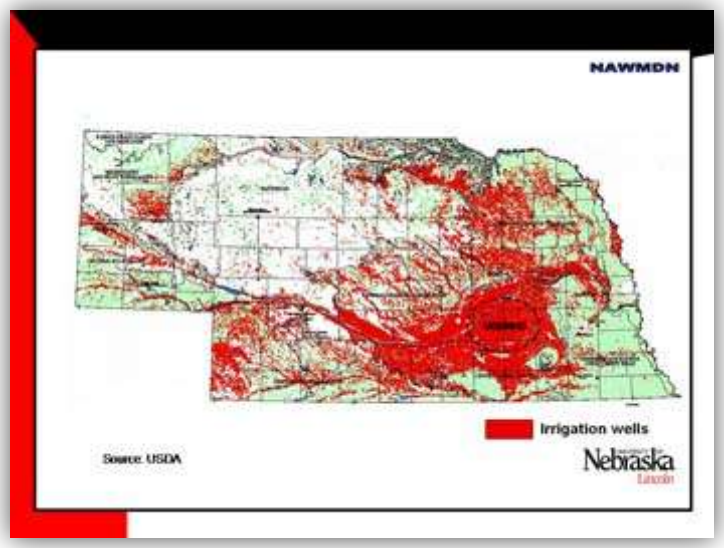
Suat Irmak and Dean E. Eisenhauer (2006)

2006soldays-water009

As pumping lift increases your pumping cost increases

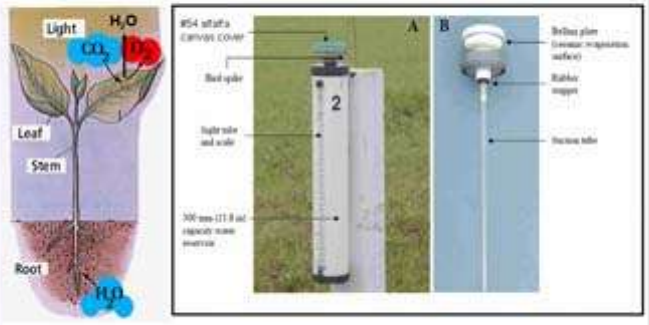


2006soldays-water010



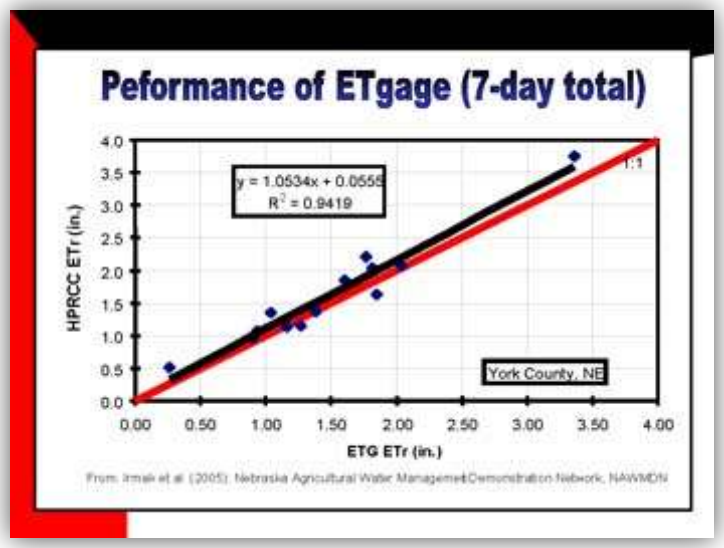
2006soldays-water011

ATMOMETERS (ETgage)



2006soldays-water012

2006soldays-water013



2006soldays-water014

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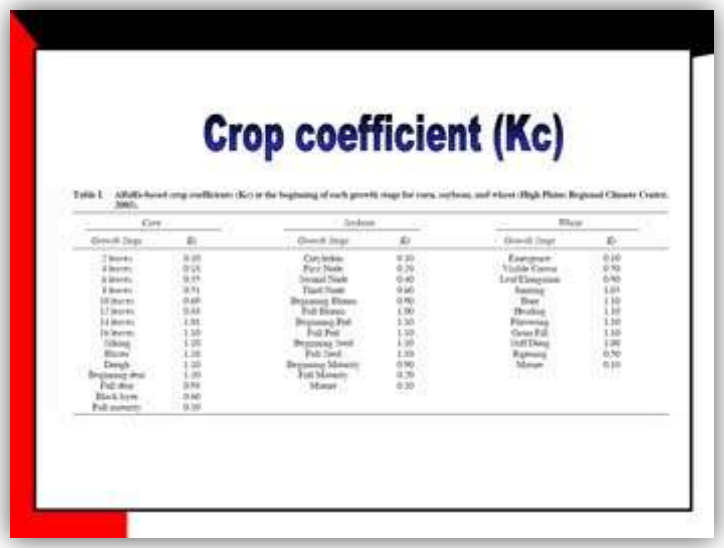
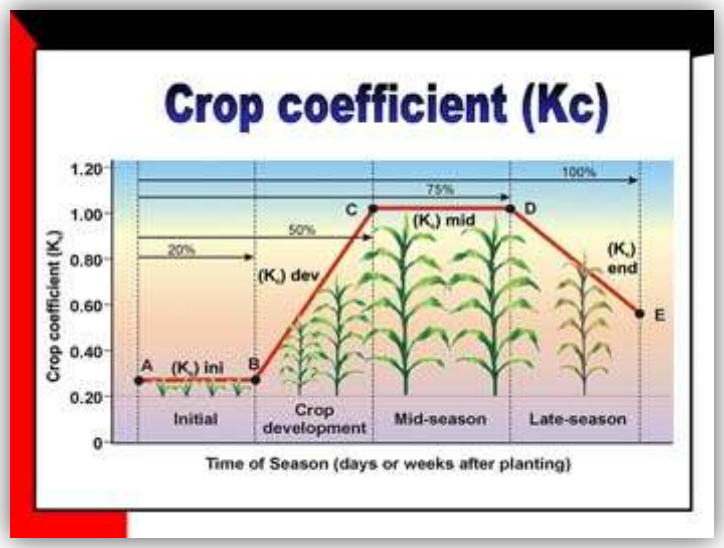
2006soldays-water016

Crop coefficient (Kc)



2006soldays-water017

Crop coefficient (Kc)

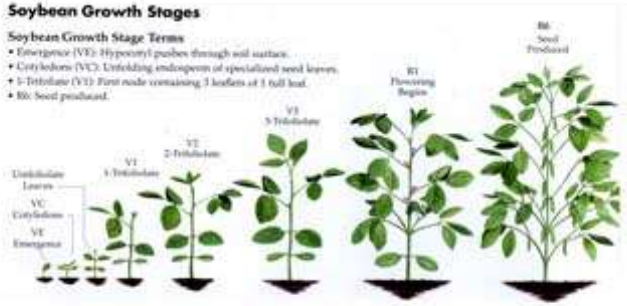


2006soldays-water018

Soybean Growth Stages

Soybean Growth Stage Terms

- Emergence (VE): Hypocotyl pushes through soil surface.
- Cotyledons (VC): Unfolding endosperm of specialized seed leaves.
- 1-Trifoliate (V1): First node containing 3 leaflets of 1 full leaf.
- R6: Seed produced.



Multiply Weekly ETgage reading change by:

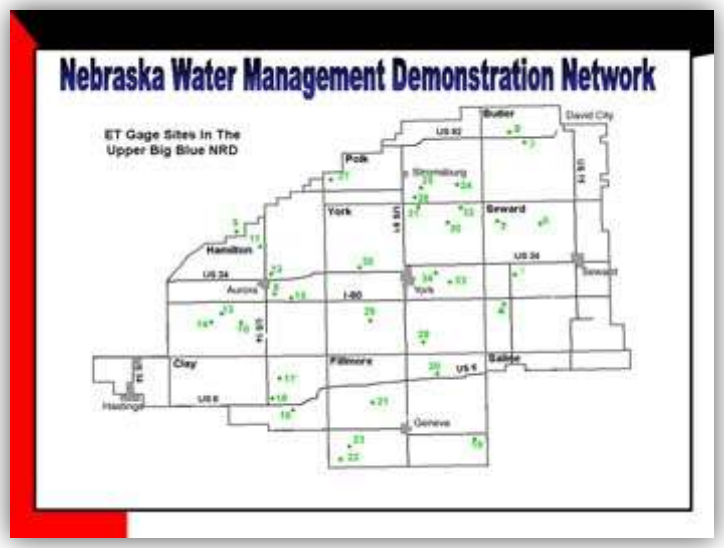
VC = .1 V1 = .20 V2 = .40 V3 = .60 R1 = .90 R2 = 1.0 R3 = 1.10
R4 = 1.10 R5 = 1.10 R6 = 1.10 Beginning Mature = .90 Fully Mature = .20

2006soldays-water019

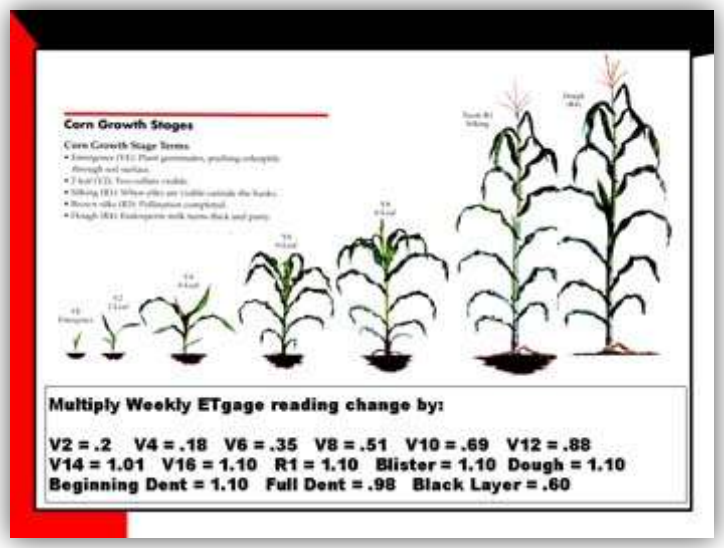
Solution Site Weekly ET Readings

Date	Weekly ET	Crop Stage	Factor	Crop ET
6/12/06	2.30	V6	.35	.81
6/19/06	1.75	V8	.51	.89
6/26/06	1.75	V10	.69	1.21
7/3/06	2.00	V12	.88	1.76
7/10/06	1.50	V14	1.01	1.51
7/17/06	1.63	V16	1.10	1.79
7/24/06	1.65	R1	1.10	1.82
7/31/06	1.90	R1	1.10	2.09
8/7/06	1.70	Blister	1.10	1.87
Total	*16.18*		*Total*	*13.75*

2006soldays-water020



2006soldays-water021



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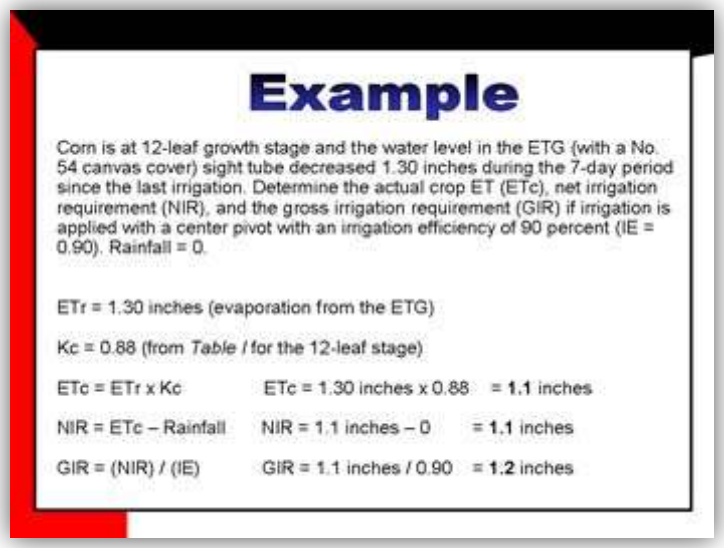
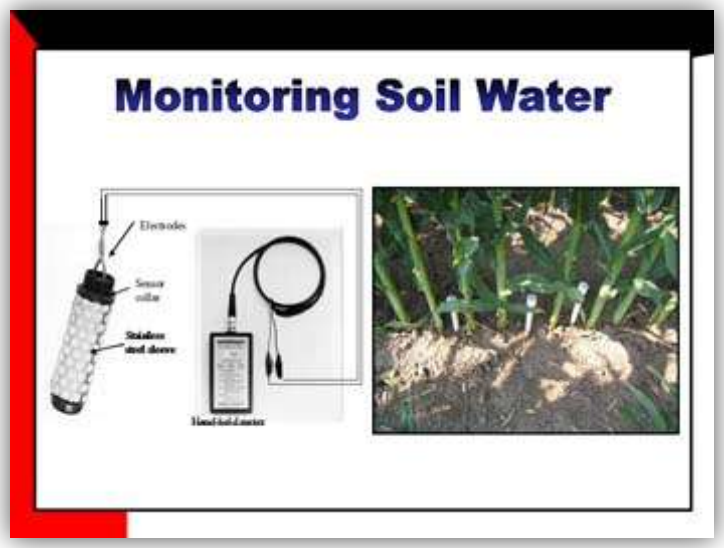


2006soldays-water023

2006soldays-water024



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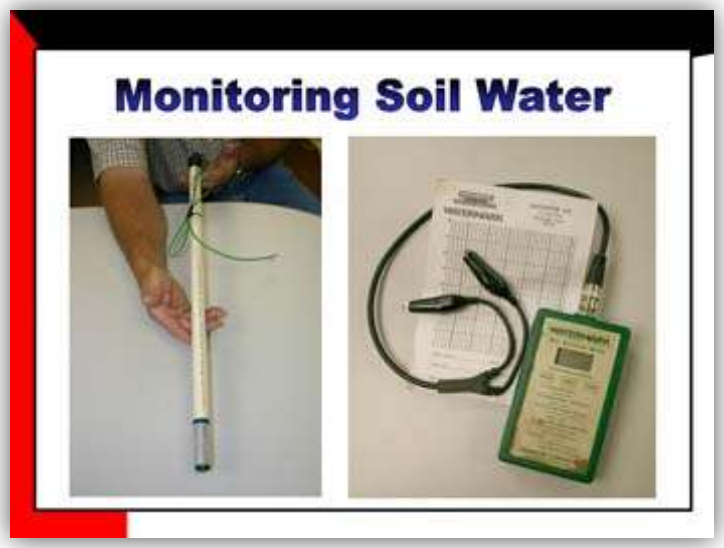

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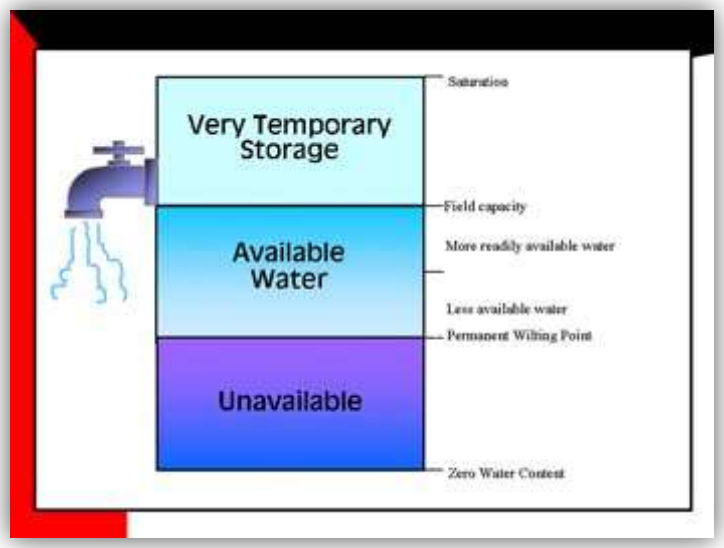

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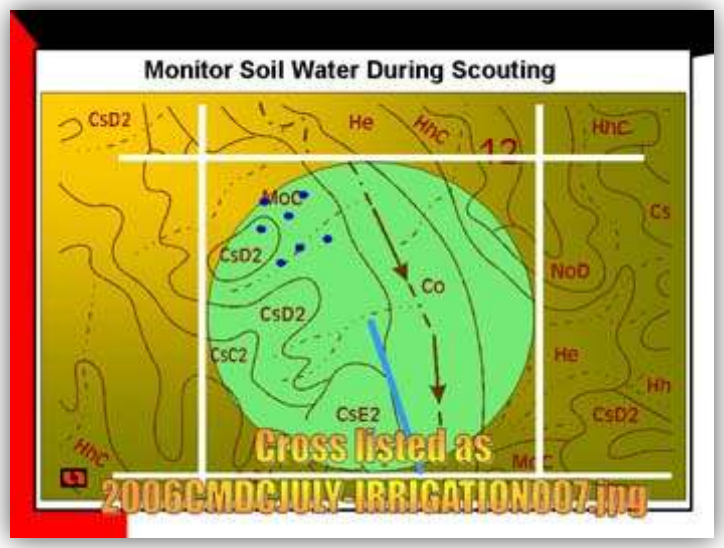

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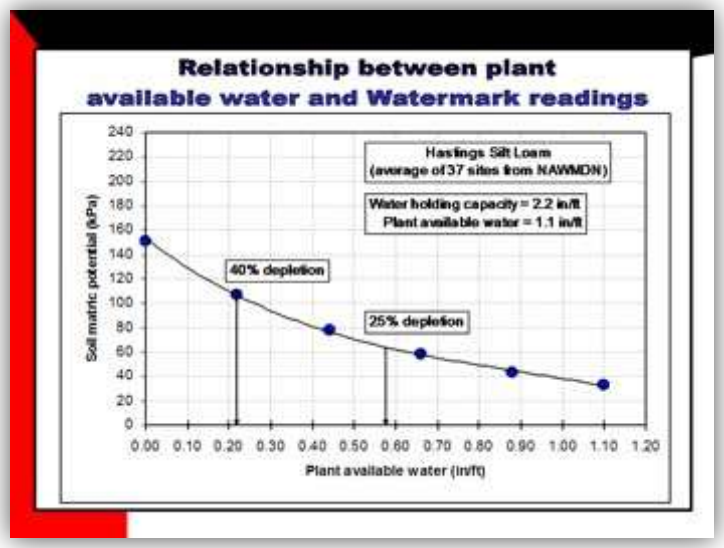

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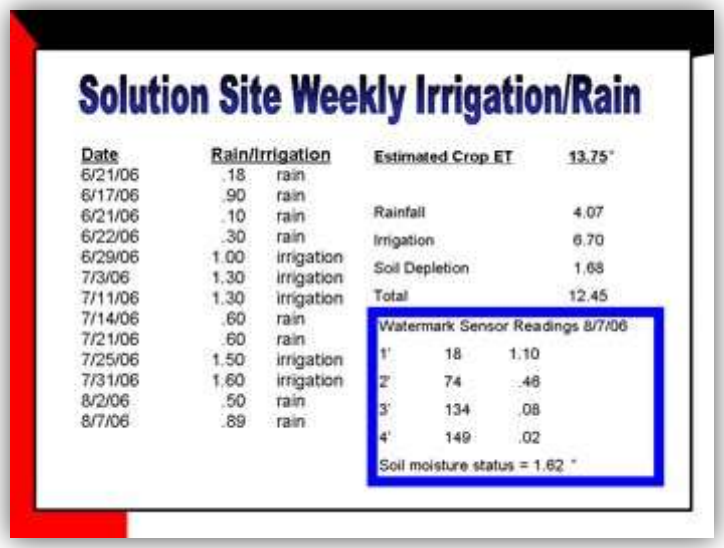

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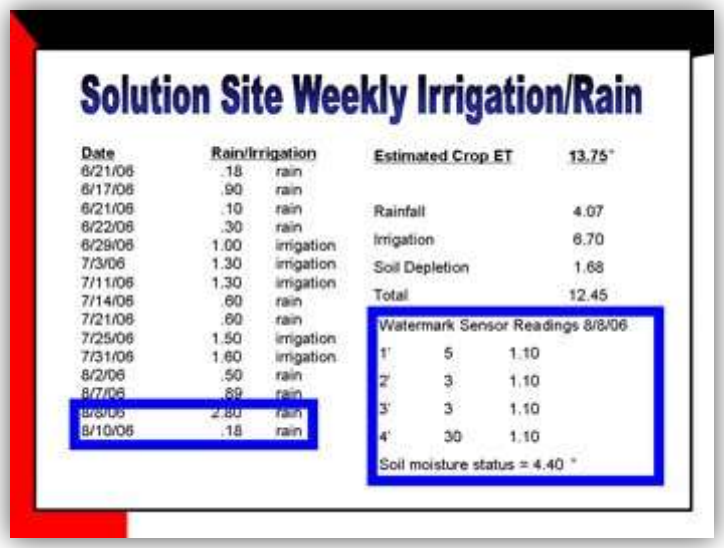

2006soldays-water031

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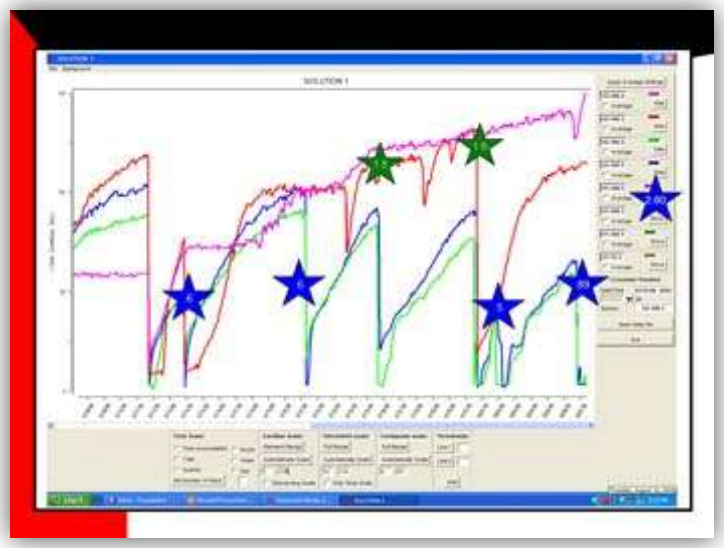

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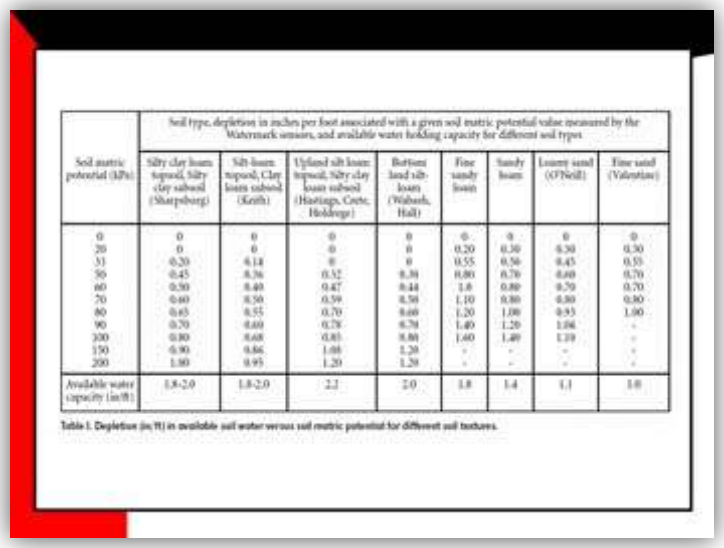
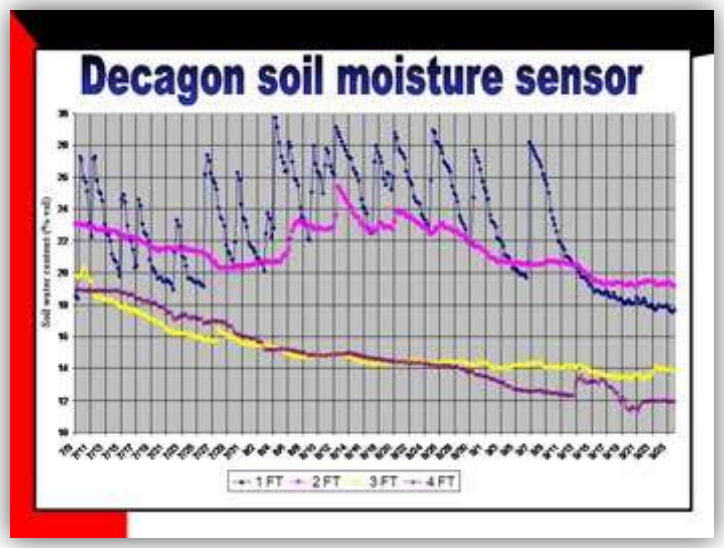


Soil matric potential (kPa)	Soil type, depletion in inches per foot associated with a given soil matric potential value measured by the Watermark sensors, and available water holding capacity for different soil types							
	Silty clay loam topsoil, Silty clay subsoil (Sharpsburg)	Silt loam topsoil, Clay loam subsoil (Keith)	Upland silt loam topsoil, Silty clay loam subsoil (Hastings, Crete, Holdrege)	Bottom land silt-loam (Wabash, Hall)	Fine sandy loam	Sandy loam	Loamy sand (O'Neill)	Fine sand (Valentine)
0	0	0	0	0	0	0	0	0
20	0	0	0	0	0.20	0.30	0.30	0.30
31	0.20	0.14	0	0	0.55	0.50	0.45	0.55
50	0.45	0.36	0.32	0.30	0.80	0.70	0.60	0.70
60	0.50	0.40	0.47	0.44	1.0	0.80	0.70	0.70
70	0.60	0.50	0.59	0.50	1.10	0.80	0.80	0.80
80	0.65	0.55	0.70	0.60	1.20	1.00	0.93	1.00
90	0.70	0.60	0.78	0.70	1.40	1.20	1.06	-
100	0.80	0.68	0.81	0.80	1.60	1.40	1.19	-
150	0.90	0.86	1.08	1.20	-	-	-	-
200	1.00	0.95	1.20	1.20	-	-	-	-
Available water capacity (in/ft)	1.8-2.0	1.8-2.0	2.2	2.0	1.8	1.4	1.1	1.0

Table 1. Depletion (in/ft) in available soil water versus soil matric potential for different soil textures.

2006soldays-water034



2006soldays-water035