

Soil Moisture Sensor Conversion Chart

Watermark-Centibar

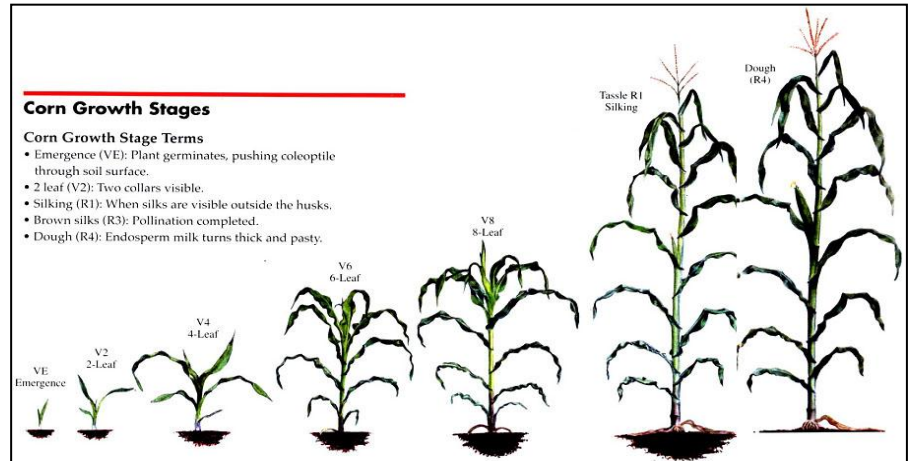
Hastings, Crete & Holdrege Silt Loam Soil

2.20 in/ft of available water

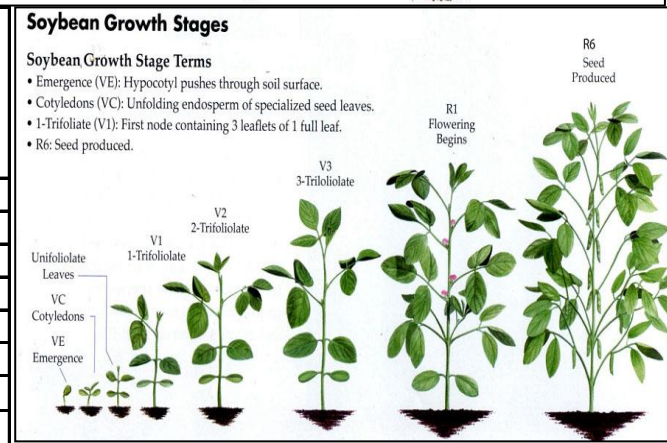
Meter Reading Centibars	% Total Depletion	Depletion in inches/foot	Depletion			Management Zone
			1st Foot	2nd Foot	3rd Foot	
0		No Depletion.	_____	_____	_____	High Drainage Water Zone Top soil layer may get this wet from rain or irrigation.
10		Excess	_____	_____	_____	
20		Gravitational	_____	_____	_____	
30		Water.	_____	_____	_____	
33	0	0.00				Field Capacity (1.10 in.)
40	7	0.16	_____	_____	_____	Rain Storage Zone Keep at least a one foot layer of soil dryer than this to store rain.
50	15	0.32	_____	_____	_____	
60	21	0.47	_____	_____	_____	
70	27	0.59	_____	_____	_____	Desired Water Zone Keep the deeper soil layers in this range. The goal is to dry out the lower layers throughout the summer and be in the low water zone by crop maturity. Irrigate during this moisture range. *Average meter reading of 90 or 100 in root zone is ideal time to irrigate*. (Use average of top two sensors prior to reproductive stages and average of top three sensors after reproductive stages).
80	32	0.70	_____	_____	_____	
*90	35	0.78	_____	_____	_____	
*100	37	0.85	_____	_____	_____	
110	40	0.89	_____	_____	_____	
120	41	0.91	_____	_____	_____	
130	43	0.94	_____	_____	_____	
140	44	0.97	_____	_____	_____	
150	49	1.08	_____	_____	_____	Low Water Zone Keep at least a one foot layer of soil wetter than this. Crop stress likely, more than 50% water depleted.
200	55	1.20	_____	_____	_____	

Sample Worksheet

Estimated root depth versus stage of growth			
	Crop		
Root Depth	Corn	Soybeans	Wheat
1'	V4	V1 (1st Node)	V. Crown
1.5'	V8	V2 (2nd Node)	Jointing
2.0'	V12	Begin Bloom	Boot
2.5'	V16	Full Bloom	Heading
3.0'	Silking	Begin Pod	Flowering
3.5'	Blister		Grain Fill
4.0'	Begin Dent	Full Seed	Ripening



Example			Your Readings	Water Depleted
Depth	Reading	Water Depleted (in.)		
1st Foot	90	0.78	<input type="text"/>	<input type="text"/>
2nd Foot	60	0.47	<input type="text"/>	<input type="text"/>
3rd Foot	50	0.32	<input type="text"/>	<input type="text"/>
Total Water Depleted		1.57	Total	<input type="text"/>
	ET Rate	<input type="text"/>		



Corn is in the silking stage
 $3 \times 1.10 = 3.30$ (Rooting Depth times Plant Available Water)
 $3.30 - 1.57 = 1.73$ (Total Water subtract Water Depleted)
 Then (Water Depleted divided by ET Rate)
 $1.73 / .30 = 5.76$ days before next irrigation

ET rate is determined by ET gage