

# How much water is available in your soil to meet crop ET?

## Allowable Depletion

Exceeding the Allowable Depletion will reduce your crop yield

Multiply FACTOR 1 x FACTOR 2 x FACTOR 3 to get Allowable Depletion

This Table is good only when you start with a root zone completely full of water, as after irrigating.  
(See table A-2 for examples.)

### FACTOR 1: Total Soil Water Capacity per foot

(from field capacity to permanent wilting)

inches/foot

#### Coarse Texture

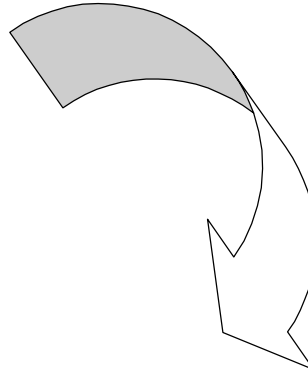
Fine sand 0.9  
Loamy sand 1.2

#### Medium Texture

Sandy loam 1.6  
Loam 2.0

#### Fine Texture

Silty loam 2.3  
Clay loam 2.1



### FACTOR 2: Root depth

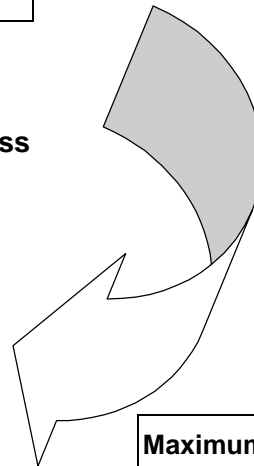
Feet

Corn	1.5		40 days after planting	
	3.0	full growth	80 days after planting	14 days before tassel
Beans	1.2		25 days after planting	
	2.5	full growth	50 days after planting	10 days after 2nd bloom
Sugar beets	1.5		45 days after planting	
	3.0	full growth	90 days after planting	
Small grains	1.5		40 days after planting	
	3.0	full growth	80 days after planting	10 days before heading
Potatoes	1.0		40 days after planting	
	2.0	full growth	80 days after planting	10 days after bloom
Onions	0.4		50 days after planting	
	0.8	full growth	100 days after planting	max plant height
Cucumber	1.0		25 days after planting	
	2.0	full growth	50 days after planting	
Alfalfa	4.0	full growth	full ground cover	
Turf	1.0	full growth	full ground cover	
Pasture	2.0	full growth	full ground cover	

Full growth: mature roots, no confining soil layers.

### FACTOR 3: Water withdrawn without stress

Corn 50%  
Beans 50%  
Sugar beets 50%  
Small grains 50%  
Potatoes 40%  
Onions 40%  
Cucumber 40%  
Alfalfa 70%  
Turf 80%  
Pasture 60%



### EXAMPLES

*The crop can use this much water without being stressed*

Corn, sandy loam, mature 1.6 X 3 X .50 = 2.4 inches  
Corn, clay loam, mature 2.1 X 3 X .50 = 3.2 inches  
Alfalfa, clay loam, mature 2.1 X 4 X .70 = 5.9 inches  
Pasture, clay loam, mature 2.1 X 2.0 X .60 = 2.5 inches

**Maximum irrigation efficiency**  
For surface irrigation systems (furrows or borders), empty the root zone up to the allowable depletion.