



Crop Water Need

Crop water need refers the total amount of water required to mature a specified crop under field conditions. It is dependent on climate, crop transpiration characteristics, and duration of growing period.

The Table below shows a range of crop water need values for various field crops. The values are rough estimates and should only be used if more accurate data is unavailable. The Table also indicates the sensitivity of various crops to water shortages. If the sensitivity is high, the crop cannot withstand water shortages very well and shortages should be avoided. The opposite is true for low sensitivity.



Crop	Crop Water Need (mm/total growing period)	Sensitivity to Drought
Bean	300-500	medium-high
Pea	350-500	medium-high
Cabbage	350-500	medium-high
Onion	350-550	medium-high
Melon	400-600	medium-high
Tomato	400-800	medium-high
Sorghum/Millet	450-650	low
Barley/Oats/Wheat	450-650	low-medium
Soybean	450-700	low-medium
Rice (paddy)	450-700	high
Potato	500-700	high
Peanut	500-700	low-medium
Maize	500-800	medium-high
Sugar beet	550-750	low-medium
Pepper	600-900	medium-high
Sunflower	600-1000	low-medium
Cotton	700-1300	low
Alfalfa	800-1600	low-medium
Citrus	900-1200	low-medium
Banana	1200-2200	high
Sugarcane	1500-2500	high

Prepared by Nick Madden, 2012.

Reference: Irrigation Water Management: Irrigation Water Needs, Training Manual No. 3

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