MICHIGAN STATE UNIVERSITY | Extension

Irrigation update and crop water use

Early-season crop water use for both **corn and soybeans** remain relatively low across all three regions. During the emergence stages, weekly water demand is minimal, with most areas reporting potential evapotranspiration (ET) rates below 0.4 inches per week. In many cases, existing soil moisture and recent rainfall may be sufficient to support early crop development without irrigation.

Wheat, on the other hand, is currently at peak water use, requiring more than 1.1 inches of water per week. As temperatures and evapotranspiration begin to rise, it's essential to carefully assess whether irrigation is needed.

It's important to continue monitoring local weather and soil conditions to adjust your irrigation strategy as the season progresses. Tools like Irrigation Scheduling Tools, can help estimate crop water needs and decide timing and application.

Estimated weekly crop water use for field crops in Michigan (in/week) Week of May 5 - May 11				
Crop	**Growth stage**	**Constantine**	**Entrican**	**Hart**
Corn	VE	0.10	0.10	0.11
	V2	0.20	0.20	0.22
Soybeans	VC Cotyledon	0.20	0.20	0.22
	V1 1st Node	0.31	0.30	0.33
Wheat	Leaf Elongation	0.92	0.90	1.01
	Jointing	1.05	1.03	1.16
	Boot / Heading / Flowering / Grain fill	1.12	1.10	1.23

The table above presents estimated crop water use for various field crops across three locations in Michigan. This data helps irrigation management decisions by showcasing potential crop evapotranspiration, calculated based on reference evapotranspiration and crop coefficients for each crop growth stage. It is crucial to note that crop water use values vary across regions due to differences in weather conditions, growth stages, agronomic practices and soil properties.

When using these values for irrigation scheduling, be mindful that they assume all applied irrigation water will be utilized by the plants without any loss. Additionally, these values do not account for any precipitation that may occur during the week of calculation. Reference evapotranspiration data was obtained from Enviroweather, which also offers a model for determining potential crop evapotranspiration. To access this tool, visit Enviroweather, click on "Crops," select your crop and use the potential evapotranspiration tool by choosing your nearest weather station, the latest date of interest and other crop information.

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