MICHIGAN STATE UNIVERSITY | Extension

Irrigation update and crop water use 8/11 – 8/17

Crop water use generally decreased this week compared to last week. In many areas, rainfall reduced the need for irrigation; however, in locations where rainfall did not fully meet crop water demands, supplemental irrigation was still necessary.

Corn is entering the dent stage, currently using about 1.27 inches of water per week in Southwest Michigan. Water use will begin to decline at full dent, aligning more closely with grass-reference potential evapotranspiration.

Soybeans are in their most sensitive period for water stress between the R3 and R6 stages (from pod development through seed fill) and are also using approximately 1.27 inches of water per week. Growers should monitor for signs of stress or disease pressure and adjust irrigation strategies accordingly.

To help reduce the risk of diseases associated with constant leaf wetness, it is recommended to apply larger volumes of water less frequently rather than frequent small applications. 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 August 11 - 17				
Crop	**Growth stage**	**Constantine**	**Entrican**	**Hart**
	Reference ET	1.15	1.15	1.09
Corn	V14	1.27	1.27	1.20
	VT, Silk, Blister, Dough, Begin Dent	1.27	1.27	1.20
	Full dent	1.15	1.15	1.09
Soybeans	R2 Full Bloom	1.27	1.27	1.20
	R3 Begin Pod / R4 Full pod	1.27	1.27	1.20
	R5 Begin seed / Full seed	1.27	1.27	1.20

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.