MICHIGAN STATE UNIVERSITY | Extension

Irrigation update and crop water use 9/8 – 9/14

Temperatures this week are higher than last week, increasing evapotranspiration. With little to no precipitation expected, you may be questioning whether crops still need water and if it's time for the last irrigation of the season. Remember, the goal of the final irrigation is to supply enough water for crops to finish strong while leaving the soil in good condition for harvest. For more details, see the recent article *"Is It Time for the Last Irrigation?"*

Currently, **corn** at the dent stage is using about 0.14 inches of water per day, dropping to around 0.09 inches at black layer, after which additional irrigation will no longer provide a benefit. **Soybeans** at R7 are using about 0.14 inches per day (just under an inch per week). Beyond this stage, soybean water use will drop quickly until the crop reaches full maturity. A newly published MSU Extension bulletin provides guidance on *soybean irrigation management*.

Monitoring crop stage, soil moisture, and weather conditions together will help you make the best decision for the final irrigation. Irrigation Scheduling Tools can help estimate crop water needs and decide timing and application.

Week of September 8 - 14				
Crop	**Growth stage**	**Constantine**	**Entrican**	**Hart**
	Reference ET	0.98	0.97	0.94
Corn	VT, Silk, Blister, Dough, Begin Dent	1.08	1.06	1.03
	Full Dent	0.98	0.97	0.94
	Black Layer	0.65	0.64	0.62
Soybeans	R5 Begin seed / R6 Full seed	1.08	1.06	1.03
	Begin Mature	0.98	0.97	0.94
	R8 95% Pods Mature	0.20	0.19	0.19

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.