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Irrigation update and crop water use 8/25 – 8/31

At this point in the season, one of the most common questions growers ask is: "When should I stop irrigating?" This is one of the most critical and challenging decisions to make. Ending irrigation too early risks not meeting the crop's water demand, potentially reducing yield, while continuing too long can result in unnecessary losses of water, energy, and time. The goal of the final irrigation is to supply enough water to carry the crop to physiological maturity, ensuring good yields, while also leaving the soil in a condition that allows for harvest.

Typically, late August and early September weather conditions reduce evapotranspiration (ET), lowering crop water needs. However, this week's forecast indicates drier-than-normal conditions, which means crops may still require supplemental irrigation, depending on how much water is available in your soil. We recommend keeping at least 50% of your total available water holding capacity.

Corn at the dent stage is currently using about 0.14 inches of water per day. By the time the crop reaches black layer, water use will decline to approximately 0.09 inches per day. **Soybeans** at R5 to R6, soybeans continue to demand significant water, averaging 0.15 inches per day, which is a little over 1 inch per week.

Carefully monitoring soil moisture, crop stage, and weather outlook will be essential to making the most informed decision about the last irrigation of the season. 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 25 - 31				
Crop	**Growth stage**	**Constantine**	**Entrican**	**Hart**
	Reference ET	0.99	1.04	1.04
Corn	VT, Silk, Blister, Dough, Begin Dent	1.08	1.14	1.14
	Full Dent	0.99	1.04	1.04
	Black Layer	0.65	0.69	0.69
Soybeans	R3 Begin Pod / R4 Full pod	1.08	1.14	1.14
	R5 Begin seed / R6 Full seed	1.08	1.14	1.14
	Begin Mature	0.99	1.04	1.04

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.