

Irrigation update and crop water use 9/15 – 9/21

Dry and warm temperatures this week increased crop water use. With little rain in the forecast, many of you may be wondering if fields still need a shot of water and whether it's time for the last irrigation of the season. For more information, check out [“Is It Time for the Last Irrigation?”](#).

If you've inter-seeded cover crops into corn or soybeans, a dry spell may hold back germination until we get rain. That delay can limit fall growth and reduce some of the cover crop benefits. If it's dry enough to stall cover crops, chances are your corn and soybeans could still benefit from another irrigation. It could help beans fill out or add test weight to corn. See [“Irrigate Cover Crops for Better Establishment”](#) for details.

Currently, **corn** at the dent stage is using about 0.14 inches of water per day. By black layer, that drops to about 0.09 inches. After black layer, extra irrigation won't add yield. At R7 (beginning maturity), **soybeans** are using about 0.14 inches per day (just under 1 inch per week). Water use falls off quickly after this stage, dropping to around 0.20 inches per week at full maturity. A newly published MSU Extension bulletin provides guidance on [soybean irrigation management](#).

[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 September 15 - 21				
Crop	Growth stage	Constantine	Entrican	Hart
	Reference ET	1.05	0.99	0.94
Corn	VT, Silk, Blister, Dough, Begin Dent	1.16	1.09	1.03
	Full Dent	1.05	0.99	0.94
	Black Layer	0.69	0.65	0.62
Soybeans	R5 Begin seed / R6 Full seed	1.16	1.09	1.03
	R7 Begin Mature	1.05	0.99	0.94
	R8 95% Pods Mature	0.21	0.20	0.19
	Mature	0.11	0.10	0.09

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.

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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.