MICHIGAN STATE UNIVERSITY | Extension

Irrigation update and crop water use

Crop water use generally increased compared to last week, and next week's demand is expected to be higher than normal due to a forecasted heat wave entering this weekend and continuing into early next week.

Estimated crop water use for **corn** is currently between 0.28 to 0.55 inches per day. Yesterday's rainfall was timely, as it helped offset the dry conditions experienced earlier in the week. Continue monitoring moisture levels, especially in areas that did not receive enough rainfall. **Soybeans** at the V3 growth stage are using approximately 0.85 inches of water per week. As the crop progresses to later stages, water demand will rise to around 1 inch per week. Ensure adequate soil moisture is maintained within the active root zone.

Wheat is in the grain fill stage, requiring approximately 1.50 inches of water per week (or about 0.21 inches per day). Warmer temperatures have significantly increased wheat's water use, and this trend will continue into next week. Maintaining optimal soil moisture during grain fill is crucial for maximizing grain yield.

With the upcoming heat wave, it's critical to closely monitor soil moisture and adjust irrigation strategies accordingly. 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 June 16 - June 22				
Crop	**Growth stage**	**Constantine**	**Entrican**	**Hart**
	Reference ET	1.41	1.40	1.30
Corn	V2	0.28	0.28	0.26
	V4	0.28	0.28	0.26
	V6	0.55	0.55	0.51
Soybeans	V1 1st Node	0.42	0.42	0.39
	V2 2nd Node	0.71	0.70	0.65
	V3 3rd Node	0.85	0.84	0.78
Wheat	Jointing	1.45	1.44	1.43
	Boot / Heading / Flowering / Grain fill	1.55	1.54	1.18
	Soft Dough	1.41	1.4	1.30

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.