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Irrigation update and crop water use

Crop water use remains high due to sustained warmer temperatures. Some irrigators have already applied water to help crops cope with heat stress and increased evaporative demand.

Estimated water use for **corn** currently ranges between 0.29 and 1.11 inches per week, depending on the growth stage. If rainfall is insufficient, irrigation may be necessary, particularly if signs of heat stress such as leaf rolling are observed. It's important to note that some leaf curling during the day is normal; however, if symptoms persist into the evening or early morning, it could indicate water stress.

Soybeans at the V3 growth stage are using about 0.78 inches of water per week. However, for R1 soybeans it requires over an inch per week. Maintain adequate soil moisture in the active root zone and watch for early signs of stress such as grayish leaf coloration.

Wheat is currently in the soft dough stage, requiring approximately 1.30 inches of water per week (or about 0.19 inches per day). Warmer conditions have significantly increased water use.

With temperatures remaining in the mid-80s to 90s, evapotranspiration rates will stay high. It's essential to monitor rainfall, soil moisture closely and adjust irrigation accordingly. 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 23 - June 29

Crop	Growth stage	Constantine	Entrican	Hart
	Reference ET	1.46	1.19	1.29
Corn	V4	0.29	0.24	0.26
	V6	0.57	0.46	0.50
	V8	0.82	0.66	0.72
	V10	1.11	0.90	0.98
Soybeans	V1 1st Node	0.44	0.36	0.39
	V2 2nd Node	0.73	0.59	0.65
	V3 3rd Node	0.87	0.71	0.78
	R1 Beginning Bloom	1.46	1.19	1.29
Wheat	Jointing	1.50	1.22	1.33
	Boot / Heading / Flowering / Grain fill	1.60	1.30	1.42
	Soft Dough	1.46	1.19	1.29

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.