MICHIGAN STATE UNIVERSITY | Extension

# Irrigation update and crop water use 8/18 – 8/24

Crop water use generally decreased this week compared to last week. In some areas, rainfall was sufficient to meet the average crop water demand of ~1.15 inches per week, though not all regions received enough precipitation.

**Corn** at the dent stage has begun to reduce water use, currently averaging about 0.16 inches per day. **Soybeans** are in their most sensitive period for water stress, with peak water use occurring between the R3 and R6 stages (from pod development through seed fill).

Irrigation should be scheduled to meet at least 5–6 days of crop water demand. To reduce the risk of diseases associated with prolonged leaf wetness, it is recommended to apply larger amounts of water less frequently rather than making frequent small applications.

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)<br>Week of August 18 - 24 | | | | |
|---|---|---|---|---|
| **Crop** | **Growth stage** | **Constantine** | **Entrican** | **Hart** |
| | Reference ET | 1.03 | 1.06 | 0.96 |
| Corn | V14 | 1.13 | 1.17 | 1.06 |
| | VT, Silk, Blister, Dough, Begin Dent | 1.13 | 1.17 | 1.06 |
| | Full Dent | 1.03 | 1.06 | 0.96 |
| Soybeans | R2 Full Bloom | 1.13 | 1.17 | 1.06 |
| | R3 Begin Pod / R4 Full pod | 1.13 | 1.17 | 1.06 |
| | R5 Begin seed / R6 Full seed | 1.13 | 1.17 | 1.06 |

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.