MICHIGAN STATE UNIVERSITY | Extension

# Irrigation update and crop water use 9/1 – 9/7

Deciding when to stop irrigation is one of the toughest calls of the season. Stop too early, and crops may not get the water they need, risking yield loss. Keep going too long, and you waste water, energy and time.

The goal of the last irrigation is simple: give crops enough water to finish strong while leaving the soil in good shape for harvest.

Here are three key things to check:

- **Crop maturity:** Corn no longer benefits from irrigation once it reaches black layer. Soybeans need water until at least 50% of the pods on the main stem turn yellow.
- **Soil moisture:** Try to keep at least half of your soil's water capacity. You can use scheduling tools.
- **Weather forecast:** A timely rain may save you a pass, but remember that extra moisture can also worsen white mold in soybeans or tar spot in corn.

Right now, **corn** at dent stage uses about 0.14 inches of water per day and drops to 0.09 at black layer. **Soybeans** at R6 are still using about 0.15 inches per day, just over an inch per week.

Watching crop stage, soil moisture, and weather together will help you make the best call for your 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)<br>Week of September 1 - 7 | | | | |
|---|---|---|---|---|
| **Crop** | **Growth stage** | **Constantine** | **Entrican** | **Hart** |
| | Reference ET | 0.96 | 0.84 | 0.74 |
| Corn | VT, Silk, Blister, Dough, Begin Dent | 1.06 | 0.92 | 0.82 |
| | Full Dent | 0.96 | 0.84 | 0.74 |
| | Black Layer | 0.64 | 0.55 | 0.49 |
| Soybeans | R5 Begin seed / R6 Full seed | 1.06 | 0.92 | 0.82 |
| | R7 Begin Mature | 0.96 | 0.84 | 0.74 |
| | R8 95% Pods Mature | 0.19 | 0.17 | 0.15 |

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.