

Irrigation System Management for Better Water Usage

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With reduced water supply, soil water storage to accommodate “down time” for repairs will be less. Therefore, make any system repairs needed to improve system reliability. Regardless of system type, check soil moisture frequently and do not add back more water than the active root zone can hold. A sprinkler system maintenance checklist and information on determining soil moisture and how much additional water various soils can hold is available from your local UI extension educator. Additional management considerations for different types of sprinkler equipment follow.

Hand line, Wheel line and Solid Set Equipment

- Water use efficiency is best with uniform water distribution. With poor uniformity some areas are over-watered, wasting water, while other areas are under-watered and crop production is reduced. Correct nozzle size and proper system pressure are essential. Repairs that help maintain correct pressure include:
 - Replace worn nozzles (pattern is poor and extra flow adds un-needed water and reduces system pressure)
 - Replace drain valves on wheel lines and worn pipeline gaskets
 - Check pump discharge pressure. If too low, adjust or repair the pump. If additional lines have been added, the pump may need to be re-sized.
 - Clean pump intake on surface water supplies
- Crop root zones are shallow in early season. To meet crop need but avoid deep percolation, this usually means more frequent but lighter irrigations than are needed later in the season. This is a good time to fill the entire mid-season crop root zone to field capacity. However, do not add more water than is required to re-fill the mid-season root zone.
- Avoid 24-hour sets unless it is certain that with given nozzle size excess water application and deep percolation will not occur.

Center Pivot and Linear move Systems

- These are usually not designed to meet peak ET demand. Therefore, have soil profile filled before peak use period. (If system is behind entering peak use period the system will fall more behind, stressing the crop and will not catch up for several weeks)
- Minimize evaporation losses. Run as slow as possible without causing runoff, risk of “stuck towers” or applying too much water on sandy soils. Deeper wetting encourages larger root systems which enhance plant growth.
 - Evaporation losses are minimized by fewer but larger irrigations
- Runoff is wasted water. Minimize by :
 - Using spinner or wobblers pivot package
 - Reservoir tillage
 - Booms to spread water pattern on outer towers
 - Possibly re-nozzle pivot for less flow early in season