

Approximate Run Times For Sprinkler Systems

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During drought, growers must irrigate to supply crop needs, while also conserving water by avoiding runoff and/or deep percolation. This fact sheet aids deciding when to begin irrigation and provides approximate run-times for integrated water management.

Recommendations for irrigation scheduling.

- ❖ Monitor soil moisture using tensiometers or watermark sensors placed in the crop root zone, or estimate using USDA-NRCS booklet, *Estimating Soil Moisture by Feel and Appearance*.
- ❖ Start irrigation no later than 50% moisture depletion (Table 3) in the effective root zone depth.
- ❖ Available soil water and maximum rates are affected by soil texture. Adjust run time hours listed (Table 1) to apply more or less than 1" application based on soil texture and available water holding capacity. Do not exceed rates in Table 2.

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Irrigation frequency for 1" application.

- ❖ Based on Et rates of 0.2"/day during the peak growing season, and no rainfall, apply 1" every 5 days.

Table 1. Rates of application (inches/hr) and hours of run time for a 1" net depth of application at 75% system efficiency.

Sprinkler Spacing	3 GPM/Nozzle	5 GPM/Nozzle	10GPM/Nozzle
40' X 40'	.18"/hr - 7 hrs.	.3"/hr - 4 hrs.	.6"/hr - 2 hrs.
40' x 50'	.14"/hr - 9 hrs.	.24"/hr - 5.5 hrs.	.5"/hr - 2.5 hrs.
40' x 60'	.12"/hr - 11 hrs.	.2"/hr - 7 hrs.	.4"/hr - 3 hrs.
50' x 50'	.11"/hr - 12 hrs.	.19"/hr - 7 hrs.	.38"/hr - 3.5 hrs.
50' x 60'	.09"/hr - 15 hrs.	.16"/hr - 8 hrs.	.32"/hr - 4 hrs.
55' x 65'	.08"/hr - 17 hrs.	.13"/hr - 10 hrs.	.27"/hr - 5 hrs.

Interpolate run times and application rates for different nozzle flow rates.

Table 2. Maximum application rates by soil texture. Do not exceed the maximum application rates to avoid runoff and/or deep percolation losses.

Sand	1"/hour
Loamy Sand	.7"/hour
Sandy Loam	.5"/hour
Loam	.4"/hour
Silt Loam	.3"/hour

Table 3. Approximate Centibar Readings at 50% Moisture Depletion.

Sand	20 CB
Loamy Sand	25 CB
Sandy Loam	40 CB
Loam	65 CB
Silt Loam	90 CB