



Wheat Irrigation Schedule

—Field observations

Yields can be reduced by too little or too much water (waterlogging).

When to irrigate?

- **Available Soil Water.** Wheat should be irrigated when 30 – 50% of the available soil water (ASW) has been used. Use the following to estimate a ASW for the different soil textures.

The soil is too dry if ...

| | Fine Sand – Loamy fine sand | Sandy Loam – Fine sandy loam | Sandy clay loam, loam, silt loam | Clay, clay loam, silty clay loam |
|----------------|--|---|---|---|
| 25-50% |  |  |  |  |
| ASW- | Forms a very weak ball with well-defined finger marks, light coating of loose and aggregated sand grains remains on fingers. | Forms a weak ball with defined finger marks, darkened color, no water staining on fingers, grains break away. | Forms a weak ball with rough surfaces, no water staining on fingers, few aggregated soil grains break away. | Forms a weak ball, very few soil aggregations break away, no water stains, clods flatten with applied pressure. |
| Slightly moist | | | | |

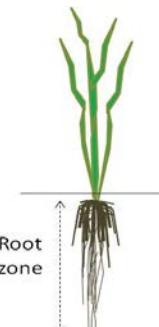
The soil has adequate moisture, if ...

| | Fine Sand – Loamy fine sand | Sandy Loam – Fine sandy loam | Sandy clay loam, loam, silt loam | Clay, clay loam, silty clay loam |
|--------|--|--|--|--|
| 50-75% |  |  |  |  |
| ASW- | Forms a weak ball with loose and aggregated sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon. | Forms a ball with defined finger marks, very light soil/water staining on fingers, darkened color, will not slick. | Forms a ball, very light staining on fingers, darkened color, pliable, forms a weak ribbon between the thumb and forefinger. | Forms a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger. |
| Moist | | | | |

- **Critical stages.** The most critical times to avoid water stress in wheat are at booting, tillering and flowering.
- **Irrigation cut-off.** Stop irrigation when the crop is close to hard dough stage (the end of grain filling).

How much water should I add?

- **Available Soil water (ASW)** Even if the soil surface is dry, moisture may be adequate in the root zone. Check ASW as outlined above.
- **Crop appearance:** Too little water can lead to a poor crop stand, reduced tillering, rolled or wilted leaves, dull grey-green or dying leaves, leaves dying (especially the tips), lower grain weight. If too much: Bright yellow or dead lower leaves, pale yellow upper leaves. Roots may be discolored (brown). (See separate Fact sheets Wheat Water management.)
- **Root appearance:** A healthy root will look white after being scratched. If too much water is added and waterlogging occurs, then roots turn pink, and may rot and turn black.
- **Moisture depth:** Irrigate to supply water to the root zone and not below. Water percolating below the root zone is unavailable to the plant.



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Reference: Publication 8168: Small Grain Production Manual, Part 5 Irrigation and Water Relations –Fulton, A., Bali, K., Mousli, Z., and Jackson, L., UC Davis; Crop evapotranspiration –Guidelines for computing crop water requirements –FAO Irrigation and drainage paper 56; NRCS Guide "Estimating Soil moisture by feel and appearance" Program Aid Number 1619-1998

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