

Simple Steps to Irrigation Scheduling Using the "Look and Feel" Method.

Before Starting:

- Determine the rooting depth of the tree or plants to be irrigated based on site specific considerations. Consult with your OSU Extension agent if you have questions.
- Determine the soil water holding capacity of different soil horizons within the root zone of the plants to be irrigated. This information is available from the OSU Extension Service or the Natural Resource Conservation Service (NRCS) of the USDA. The source of this information is usually a table in the county soil survey. This table is often titled "Physical and Chemical Properties of Soils". Look in the Summary of Tables section in the front of the soil survey book.

Steps to Soil Moisture Evaluation:

1. Use a probe, auger, or shovel to get a soil sample from the desired depth.
2. Squeeze soil to form a ball.
3. Look carefully at the soil ball:
 - are there loose sand grains or small clumps of soil?
 - are there clay stains on your fingers? A little? A lot?
 - does the ball hold together when bounced gently?
(a very weak ball breaks up with one bounce, a weak ball breaks up with 2-3 bounces.)
4. Match soil ball appearance with the laminated field card to determine how much water is left in the soil. Use the card that best matches the soil texture.
5. Use soil water holding capacity information (obtained earlier) to determine how much water is needed to return the soil to field capacity. (Soil at "field capacity" holds as much water as possible without any draining away.) **Irrigation is suggested when soil contains 50% plant available soil moisture.**
6. Apply just the amount of water estimated to return the soil water content to field capacity. Consider the efficiency of your irrigation system when calculating how much water to apply.

Example:

For mature fruit trees, sampling from the 6-12" and 18-24" depths in the soil is suggested. Average the water content of the soil from these depths to determine if irrigation is necessary using the single digits (1-4) on the laminated field card(s). Irrigation should begin when the soil moisture in these two depths averages a 2.5 value (50% plant available water).

A soil with a moisture level of 3 (25-50% depleted) at 6-12" and moisture level of 2 (50-75% depleted) at 18-24" has an average soil moisture level of 2.5 and is probably ready for irrigation. How much water should be applied? If the available water holding capacity of this soil is 0.2 inches of water per inch of soil then the top 24 inches of soil can hold 4.8 inches of water at field capacity. Soil at 50% soil moisture depletion can absorb and hold 2.4 inches of irrigation water. If the soil is irrigated using a solid set sprinkler irrigation system (80% efficiency rating) then 3.0 inches of water should be applied. (Check with the OSU Extension office for irrigation system efficiency estimates).