

DETERMINING YOUR APPLIED WATER SURFACE IRRIGATION (FURROW AND BORDER STRIP)

Almond tree water use estimates (evapotranspiration, or ET) are provided to you in inches of water use. Because one of the objectives of good irrigation water management is to replace the soil water used by the trees (estimated from tree ET) since the last irrigation, measuring the applied water also in inches makes the comparison between the amount you want to apply and the actual applied water easier.

Here's how to calculate applied water:

Information Needed

1. The flow rate or the total water applied during the irrigation.
2. The orchard area irrigated during the irrigation set.
3. The irrigation set time.

Determining the Water Applied

With the above information, use one of the following formulas to determine the applied water measured in inches (in) during the irrigation set:

$$\frac{\text{Flow Rate to Orchard (gpm)} \times \text{Irrigation Set Time (min)} \times 1.6}{\text{Orchard Area Irrigated (ft}^2\text{)}} = \text{Applied Water (in)}$$

$$\frac{\text{Flow Rate to Orchard (gpm)} \times \text{Irrigation Set Time (min)} \times 27,152}{\text{Orchard Area Irrigated (acres)}} = \text{Applied Water (in)}$$

If the water applied to the orchard is measured in acre-inches (ac – in), to determine the inches of water applied, use the following formula:

$$\frac{\text{Water Applied (ac – in)}}{\text{Orchard Area Irrigated (ac)}} = \text{Applied Water (in)}$$

Note that the following conversions may be helpful in working through the formulas above:

Useful Unit Conversions:

1 acre = 43,560 ft²

1 cubic foot per second (cfs) = 449 gallons per minute (gpm)

Visit [Almonds.com/Irrigation](https://www.almonds.com/Irrigation) to learn more about available irrigation resources, including the Irrigation Calculator.



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