

Go with the **Low Flow:** Spray or Drip?



Image courtesy of Rain Bird Corporation

Spray Irrigation emits water in an overlapping (head-to-head) pattern.

This can be an efficient way to irrigate large landscapes with groundcover or uniform plant material like lawns or meadows.

When properly installed, low volume spray heads apply water at about 1/3 the rate of conventional spray heads. The newer spray irrigation heads are improved so that they spray heavier water droplets that are more resistant to wind. Landscapes with grade changes using spray heads should have check valves installed to prevent water from flowing out of the heads at the lowest point in your landscape.

Gallons Per Minute (GPM) Spray systems apply water in GPM. If you know the application rate of each spray head, the distance between heads, and the pressure of your system, it is relatively easy to figure out how much water is applied every time you run your irrigation.

Challenges include irrigating very narrow areas surrounded by hardscape, or irregular patterns. Irregular patterns are particularly challenging because spray irrigation requires head-to-head coverage to be efficient and odd-shaped areas may be under- or overwatered. Replace high-volume spray heads that emit water at a much higher rate than the soil can absorb with low-flow heads, and remember to cycle and soak if you experience runoff (*see p. 51*).



Image courtesy of Rain Bird Corporation

Drip Irrigation delivers water directly to roots.

Since drip irrigation is covered with soil or mulch, water does not evaporate as quickly as it might if it were applied at the surface by spray.

Installations of subsurface (or under at least 2 inches of mulch) systems may be the most efficient way to irrigate nearly every type of garden area. Since the tubing is flexible, it can be made to accommodate a wide variety of irregularly shaped areas or rectangular areas when laid in a grid pattern.

Gallons Per Hour (GPH) Drip systems apply water in GPH. They need to run for longer periods of time than spray systems. However, the actual run time must always account for how fast water is applied (precipitation rate) and eliminating runoff.

Challenges include the possibility that drip systems could apply water too quickly for the soil to absorb, so careful consideration is required especially when dripline grids are installed (*see p. 49*). Drip irrigation operates most efficiently at low pressure (between 15 and 30 psi). Optimal performance requires the use of pressure regulation and a filtering system to keep the emitters from becoming clogged. Most low flow valves have pressure reduction and filtration included, so replace all valves that are not specified for low flow systems.

What is a Tattle-Tale?

Screw a white cap (replacing the nozzle) on to the pop-up riser of one sprinkler head on each line when converting to drip.

When the drip irrigation is running below the mulch, the tattle-tale will pop up and let you know that the irrigation is on.

What is a Low Flow Valve?

Irrigation valves are designed to work within a certain pressure range (pounds per square inch or psi) and flow range (gallons per minute or GPM). If you redesign your system and use low flow irrigation, the flow through the valve may be so low that your existing valve will not operate effectively and may get stuck in the "open" position, wasting water. If you have flow lower than 5 GPM per valve, check your valve specifications for flow range to determine whether or not to replace your valves.