Improving your Sprinkler System

1. **Eliminate low-head drainage**
   - With older sprinklers, after the system is done watering, water drains out of sprinkler heads.
   - To eliminate low-head drainage, install sprinkler bodies with check valves.
   - Check valves save water by preserving water in the sprinkler lines, eliminating the need to refill the pipes each time the system waters.

2. **Make sure the water pressure is at the right level.**
   - Most sprinkler heads are designed to work at a specific water pressure. If the pressure is too high, water is wasted from misting.
   - One way to make sure the pressure is right is to install sprinkler bodies with built-in pressure regulation. They ensure water pressure at the sprinkler head is at the correct level at the sprinkler head, where it counts.

3. **Use the right nozzle.**

<table>
<thead>
<tr>
<th>Desirable characteristics</th>
<th>Undesirable characteristics</th>
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</thead>
<tbody>
<tr>
<td>Puts out large droplets, which prevent wind dispersion and misting</td>
<td>Puts out fine droplets or mist, which get blown around in wind or turn into water vapor</td>
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<tr>
<td>Waters slowly so water can soak in rather than run off the soil surface</td>
<td>Waters rapidly, resulting in runoff</td>
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<tr>
<td>Applies water evenly over an area</td>
<td>Applies water unevenly, allowing brown spots to develop</td>
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<tr>
<td>Correct arc, keeps arc adjustment well</td>
<td>Spray pattern doesn’t match area to be watered or comes out of adjustment easily</td>
</tr>
<tr>
<td>Correct throw distance</td>
<td>Throw is too short or too far</td>
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</table>

Choose a nozzle with desirable characteristics. Common examples are:
- Multi-stream rotor nozzles (eligible for rebates)
  1. MP Rotators
  2. Toro multi-stream PRN
  3. Rainbird rotary nozzles
- Toro precision series nozzles (not eligible for current rebate)

More xeriscape tips and ideas are online at csu.org.
Matched Precipitation: Make sure the nozzles have the correct precipitation rate for the spray pattern to reduce overly wet and dry areas.

- Use one type of sprinkler head on one zone. Don’t mix and match different types of sprinkler heads.
- Multi-stream and fixed arc nozzles usually already are matched in the precipitation rate.
- Rotors need to have the correct nozzle. See explanation below.

**MPR: Matched Precipitation Rate Sprinkler Heads**

<table>
<thead>
<tr>
<th>Full circle</th>
<th>Half circle</th>
<th>Quarter circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 quarters x 1 GPM = 4 GPM nozzle</td>
<td>2 quarters x 1 GPM = 2 GPM nozzle</td>
<td>1 quarter x 1 GPM = 1 GPM nozzle</td>
</tr>
</tbody>
</table>

4-2-1 relationship equals MPR

4. Use drip irrigation for mixed borders, pots, vegetable gardens, etc.

- Don’t mix drip irrigation with sprinkler heads in the same zone. Construct the irrigation system so drip irrigation waters separately from sprinkler heads.
- Use solid drip pipe with emitters and quarter-inch tubing in areas where plants are spaced far apart from each other.
- Use drip pipe with inline emitters (for example, Netafim Techline) in narrow areas. It can also be used to wind it through densely planted areas. Available in 0.4, 0.6, 0.9 gallons per hour; 12-inch, 18-inch and 24-inch spacing between emitters.
- Use quarter-inch drip tubing with inline emitters to create rings for trees, shrubs or pots. It is also useful in areas where you need a flexible pipe to meet watering needs.

5. Check your sprinklers regularly for problems.

- Check for problems one to two times per month. Sunken heads, leaks, blocked nozzles and incorrect arcs are common problems.
- Consider using sprinkler bodies with flow control stems to reduce the flow from broken nozzles.

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