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**Conservation Corner: Landscape Watering Guidelines –
 Part Three: Matching the System’s Output to the Plant’s Needs**

Submitted by the Office of the State Engineer’s Water Use and Conservation Bureau

(SANTA FE, New Mexico) – It is important to match a system’s output to a plant’s needs when following guidelines for watering landscape. After learning the individual plants’ watering needs and the watering system’s output, the next step is matching the two together. This requires estimating the run time (how long) and the frequency (how often) for each zone of the watering system. It is important to note that the frequency, or days between watering, can vary greatly according to the season and changes in the weather. Adjusting the watering frequency, not the run time, of the irrigation timer will take care of any climatic variables.

To calculate the run times for each category of plants consider the following steps:

1. Refer to:

Table A: Gallons of Water Required to Wet Root Zone²

Plant Canopy Diameter in Feet	1'	2'	3'	4'	5'	6'	8'	10'	12'	14'	16'	18'	20'
Trees	1.5	5	11	16	22	26	38	59	85	115	150	190	235
Shrubs	1	4	8	12	17	20							
Groundcover/Cacti	.5	2	3.5	5	7	9							

Note: The amount of water needed will vary depending on soil type and soil conditions

2. List plant types and sizes by valve/zone (example: 8’ trees)

3. List the total output in gallons/plant/hr for each plant type on each valve
(example: 3 emitters x 2 gallons/hour = 6 gallons/plant/hour)
4. Look up the gallons required for each plant type and size from Table A (example: 38)
5. Divide the gallons required by total output in gallons/plant/hour to determine the run time in hours (example: $38 \div 6$ gallons/plant/hour = 6 hours)

To determine the watering frequency, remember to take into account climatic variables, along with plant type, size, root establishment, and soil type. Although how often to water is perhaps the most difficult question to answer with complete accuracy, it is safe to say that small plants in sandy soil will require more frequent watering times than large plants in clay soil. Through the use of soil probes, rain gages and just keen observation of the landscape plant material, one can determine watering frequency with relative ease.

Once run times and watering frequency are determined, an efficient watering schedule can be programmed into any type of irrigation controller. Remembering, of course, to make frequent adjustments for changes in weather, season and plant root establishment.

Watering Tips:

Signs of Underwatering

- Plant stress – Leaves that turn yellow/brown; are wilted/drooping; curl or drop off
- Stems or branches die back

Signs of Overwatering

- Plant chlorosis – Leaves blanch or turn yellow and young shoots wilt
- Excessive growth or algae/mushrooms grow around plants