

Using your Irrigation Controller's Seasonal Percentage Adjust or Water Budget Feature to Irrigate Established Lawns: Grand Junction, Colorado

Prepared by: Curtis Swift, Ph.D., Colorado State University Extension, Tri River Area

Introduction:

Most irrigation controllers (clocks) have a seasonal percentage adjust or water budget feature which allows the controller to automatically change the amount of water your lawn receives each month of the growing season.

July is the month when lawns in the Grand Junction, Fruita, and Palisade area require the most water. The 11-year average for July is 6.8 inches¹. The following recommended settings are based on this average evapotranspiration rate.²

The Procedure:

Step 1: Ensure the time and date on the irrigation controller is correct. Correct if necessary.

Step 2: All the zones/stations with established turf areas should be on the same program, i.e. Program A. Trees and shrubs, flower beds and newly seeded lawn areas need to be on different programs as they require different amounts of water and a different schedule.

Step 3: Set the program start times for established turf for three, four or five start times. If your controller only has three start times, use all three. If you have four or more start times, use four or five start times. The more start times, the better. For example:

Start Time 1	set for 12:00 midnight ³
Start Time 2	set for 1:00 a.m.
Start Time 3	set for 2:00 a.m.
Start Time 4	set for 3:00 a.m.
Start Time 5	set for 4:00 a.m.

Step 4: Set each zone/station run time based on the number of start times you selected.

For example:

- a) If the irrigation zone/station has spray nozzles and you have designated three start times, set the run time for 15 minutes. If you are using four start times, set the run time for 12

¹ 1997 – 2007 July average.

² To further fine tune your irrigation system the exact precipitation rate for each zone is needed. Irrigation audit kits and instructions on their use is available from the CSU Extension office.

³ Research confirms the hours between 10 p.m. and 6 a.m. is the best time to water to prevent turf diseases. For more information check out <http://WesternSlopeGardening.org/leafwet.html>

minutes. If you use five start times, set the run time for 9 minutes. **See Nozzle Type below for more detail.**

Step 5: Set the seasonal % adjust/water budget feature for each month as designated below. Some controllers allow you to set this feature for each month at one time. Other controllers require the percentages to be changed at the beginning of each month.

Month	Setting required
April	51%
May	78%
June	98%
July	100%
August	80%
September	53%
October	33%

The percentages given above are based on historical averages. If your controller setting is in steps of 10%, round up to the next higher percent. If you feel the lawn is not receiving enough water, increase the water budget. If you feel the lawn could do as well with less water, reduce the water budget percentage.

Nozzle Type:

Spray Nozzles: These are the common spray-type pop-up nozzles. The average efficiency of these nozzles is 55% with an application rate of 1.6 inches/hour. If your nozzles apply water in a stream use the information on **MP Rotator** nozzles below.

- 1) It will take 7 hours and 44 minutes to apply the proper amount of water to the lawn during the month of July.
- 2) If you water every three days⁴ (10 times per month) each zone will need to run for a total of 46 minutes each watering day.
 - i) Length of run time:
 - i. for three run times set the time for 15 minutes (change to four times if run off occurs)
 - ii. for four times set the time for 12 minutes
 - iii. for five times set the time for 9 minutes
 - ii) Schedule an hour between each watering time to allow the water to soak in before the next scheduled time of water application.⁵

Rotor, Impact and MP Rotator Nozzles: Impact and rotor nozzles have an application rate of 0.5 inches per hour, and are 70% efficiency.

- 1) It will take 19 hours and 26 minutes to apply enough water to the lawn during the month of July.

⁴ Watering every three days is the norm during the heat of the summer in this area.

⁵ Separating each start time by an hour permits the water to soak in before the next application of water. This is especially critical to prevent runoff, especially on slopes and next to streets.

- 2) Watering every three days² (10 days per month) requires running the zone for a total of 1 hour and 57 minutes (117 minutes) each watering day.
 - a. Length of run time:
 - i. for three run times set the time for 39 minutes
 - ii. for four run times set the time for 29 minutes
 - iii. for five run times set the time for 23 minutes
 - b. Schedule an hour between each watering time to allow the water to soak in before the next scheduled time of water application.