

## Beautiful Hardy Lawns

by

Brent Mecham

Landscape Water Management & Conservation Specialist

Most lawns in our area are Kentucky Bluegrass with a few other cool season grasses mixed in. Kentucky bluegrass is popular because it is very well adapted to our climate and thrives very well. In my opinion it is also very popular because of all the grasses available, it is without a doubt one of the best grasses for a nice appearing lawn, it is very nice to play on and to take care of.

In recent years it has come under attack because to keep it looking as nice as we have come to expect it requires a lot of water. It is socially unacceptable to have a brown lawn in the middle of the summer, and if we do, we are considered a bad neighbor. It has always puzzled me why we demand that a lawn be lush green when we live on the edge of what was once called the "great American desert." We have learned however that if we apply enough water, the lawn will stay green, which considered beautiful.

If we take a few minutes to understand a little bit about bluegrass we will find out that it is considered a cool-season grass. Meaning that when temperatures are moderate such as in the spring and fall of the year, the grass will grow quite nicely. When the temperature rises too high in the summer months, bluegrass naturally chooses to go dormant. When it does go dormant it turns brown, which is considered unacceptable. When the temperatures again begin to moderate, and if there is adequate moisture, the bluegrass will once again turn green.

Warm-season grasses such as Buffalograss or Blue Grama grass react to the environment just the opposite. They will stay dormant and brown until the temperatures heat up and then they will begin to green up and grow. However, the slightest chance of the weather going below freezing and they will once again turn dormant. Warm season grasses require less water, mowing and fertilizer, but they do not take the wear and tear that a bluegrass lawn can take.

As we examine the situation a little closer, it is not the bluegrass that demands so much water, but people. In fact in all the years I've been involved in landscaping, I have never seen the grass turn on the water by itself. There has always been a person involved to turn on the water.

There has been tremendous efforts and resources invested into finding an alternative grass for lawns that has all of the qualities of bluegrass that will use significantly less water. So far it has not been achieved, but researchers are getting much closer. In the meantime, the majority of lawns are still bluegrass. What we need to do is invest some time in learning maintenance techniques that will help the grass use less water and still be acceptably green. We will consider three areas; mowing, fertilizing and watering.

**Mowing:** Bluegrass can tolerate a wide range of mowing heights, from very short (less than 1") to very tall (over 6"). Short grass requires less water, but they need to be watered more frequently. The more often a lawn needs to be watered, the greater the possibility of over-watering. Short grass tends to have short or shallow root systems. When the root system is shallow, it is not able to access moisture that is below the root zone. Any water deeper than the root zone is essentially "wasted." Bluegrass that is mowed at 2 1/2" to 3" tall does quite well in our climate. Mowing should occur so that no more than one-third of the grass blade is removed at any one time. This prevents the grass from going into shock. Check mower blades to make sure they are sharp so that they will cut the grass blade and not shred the blade off. This will help prevent frayed edges from turning brown and causing a brown tinge to come across the lawn. During period of active growth, mowing may need to occur every few days. However, during very hot periods mowing intervals may be longer. Mulch mowing is an excellent practice by cutting the clippings in very short lengths that will decompose quickly in the grass and return nutrients to the lawn. Mulch mowing will also save time when it is properly done and keep from having to put grass clippings into the landfill. For me personally mowing the lawn is not so bad once I have the mower started. Keep your lawn mower in top running condition so that mowing will be more enjoyable and can be accomplished more easily.

**Fertilizing:** Healthy lawns need food. They need usually 3-4 pounds of nitrogen per thousand square feet applied at different times throughout the growing season. If you do mulch mowing you can cut this amount by 30% or more. For established bluegrass lawns it is best to fertilize several times during the growing season. Choose fertilizers that are complete including micro-nutrients and the nitrogen source is a slow release type. This will help minimize flushes of growth after fertilizing and make mowing easier to do. The following guideline is recommended by CSU Extension for cool season grasses such as bluegrass.

FERTILIZER APPLICATION SCHEDULE-- POUNDS OF NITROGEN PER 1000 sq. ft.				
mid March to April	May to June	July to August	mid August to September	early October to early November
1/2-1*	1	0	1	1

\* the early spring nitrogen application may not be necessary if you fertilized the previous fall and spring green-up and growth is satisfactory. Fall fertilizer is important to do while the grass is still green.

Warm season grasses such as Buffalograss will need one-half as much fertilizer applied in May and again in July.

**Watering:** Poor watering practices are probably responsible for more landscape problems than any other single factor, except maybe the weather. Recent surveys have shown that people with automatic sprinkler systems tend to over water on the average of 30-40% during the year. People who drag hoses tend to over water less than 10%. The reason for this, is "hose draggers" only water when the grass needs to be watered. It is a chore most don't want to do any more often than necessary. So it is ironic that well planned and installed sprinkler systems have the ability to save water are actually using more water. The convenience of "set it and forget it" has caused people to pay less attention to their yard. However, a little time spent in learning how to use your sprinkler system to water your lawn correctly will conserve lots of water, save you money and improve the health of your lawn.

Most homeowners realize that when it gets hotter, the lawn needs more water and vice versa. The difficult aspect is water is usually measured in inches and we try to apply water using minutes. The challenge is to make minutes equal inches so that the correct amount of water is applied to the grass. The following steps need to be done for each sprinkler zone in your yard or for each location you place the sprinkler if you are a "hose dragger."

To do this simple test you will need four identical straight-sided cans such as soup cans, fruit or vegetable cans or coffee cans. (Tuna fish cans are too shallow and water will splash out.) You will also need a ruler, a watch and pencil and paper to record your findings.

1. Place the four cans around the area being watered by the sprinkler or between the sprinkler heads in the sprinkler zone.
2. Turn on the sprinklers for 15 minutes. Make sure all the sprinkler heads are working properly.
3. Turn off the sprinklers after 15 minutes. Pour the water from three of the cans into the fourth can.
4. With the ruler measure how deep the water is in the can. This will become the precipitation rate of your sprinkler or the sprinkler zone in inches per hour.
5. Write down the results near your controller for future reference. This will be great information to have for many years to come.
6. Once you know the precipitation rate then using the following simple formula will calculate how many minutes your sprinkler will need to run to apply a desired amount of water.

$$\text{Minutes of Run Time} = \frac{\text{Water to apply (inches)}}{\text{Precipitation Rate (in. / hr.)}} \times 60 \text{ min. / hr.} = \underline{\hspace{2cm}} \text{ minutes}$$

As an example: You have done the above mentioned steps and learned that the sprinkler zone has a precipitation rate of 1.50" per hour. Because the weather has been quite warm for the past several days you decided to apply a half-inch of water. By using the above formula you would divide the half-inch by the 1.50 inches times 60 and the run time would be 20 minutes. You would need to do this for each sprinkler zone. If you decided to apply a different amount of water then you would need to repeat using the formula again.

For many of us this is more work than we want to do if we invested in an "automatic" sprinkler system. But consider how much more time would be spent using a hose. Conveniences should not be an excuse for laziness, especially when the potential for being a water conserving investment is so great. We need to learn the signs of a thirsty lawn and then turn on the switch for the sprinklers or

set the hose and turn on the faucet.

The signs for a thirsty lawn are: "Footprinting." When you walk across the lawn and you can still see your footprints several hours later AND a change of color from lush green to a bluish-gray color. The lawn is ready to be watered and waiting much longer will cause the lawn to become stressed. For the most part the Greeley area has very sandy soils. During the very hottest months you may need to water every two or three days applying only a half-inch of water per watering. Applying much more than this will percolate below the root zone of the grass. In the cooler periods you can go for a longer time between irrigations. Historical weather information shows us that the average amount of water needed for a bluegrass lawn is as follows:

Turfgrass Weekly Water Requirement in Inches of Water for Northern Colorado Area						
April	May	June	July	August	September	October
.90	1.20	1.50	1.50	1.25	1.00	.65
In. / week	In. / week	In. / week	In. / week	In. / week	In. / week	In. / week

Remember to subtract rainfall received each week to determine how much irrigation water will be needed. The above chart is based upon historical averages, but at any given time it can be cooler or hotter than average and adjustments will need to be made to your watering schedule to account for the differences between actual weather conditions and the historical averages. A good water conserving practice is to delay watering as much as possible to take advantage of Mother Nature and to monitor your lawn for the signs of footprinting and changing color. WATER YOUR LAWN WHEN IT IS THIRSTY!

Contact Northern Colorado Water Conservancy District for a Lawn Watering Guide. 970-667-2437 or visit [www.ncwcd.org](http://www.ncwcd.org)