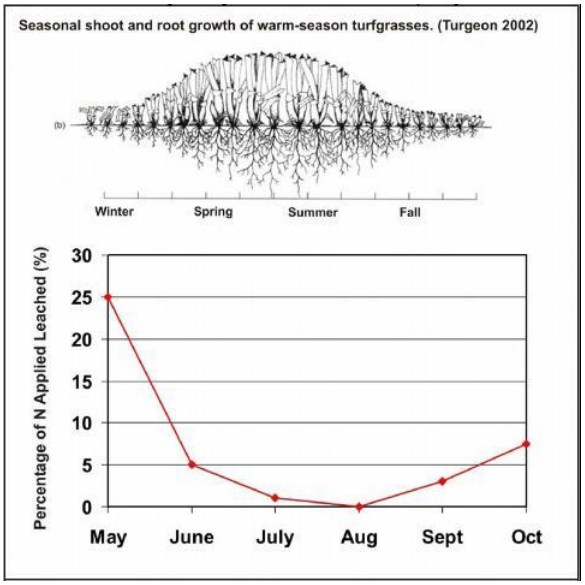
How Does Rainfall Affect Lawn Treatments?

Most lawn treatments we provide at LawnAmerica consist of a pre-emergent herbicide and/or a fertilizer, usually granular. These need to be watered into the soil within a few days with about ½" of moisture in order to be effective, so rainfall after a treatment is usually a good thing.

However, we can sometimes receive heavy downpours of 2,3, even more inches of rainfall in a short period of time. Every now and then we can get into a rainy weather pattern with almost daily rain events, with rainfall totaling over 10" in a week or two, as we have experienced this May in 2015 in Oklahoma. We are basically farmers, growing healthy turf as our crop, and we're subject to the whims of Mother Nature just as farmers are. We can't control the weather, but we do some things at LawnAmerica which help lessen the impact that things such as excessive rainfall can have on the turf.

We use Barricade pre-emergent in early spring, which has the lowest water solubility of any product on the market. This means that once it's watered in, it binds to the soil particles, and really does not leach through the soil profile much at all. We apply it at the high end of the label rate with one solid application, unlike many competitors who break it up into two light treatments. For our full program 6 and 7-step customers, we then apply a booster half rate of Barricade, which is one of the herbicides in our Round 3 Echelon Treatment during May and early June. Barricade, like all pre-emergents, will break down in the soil with time, as they are not designed to last forever, which is great from an environmental standpoint. When the soil is constantly saturated due to constant rainfall or excessive irrigation, it will break down and degrade faster, leading to weed germination later in the summer. All we can do is have the highest possible rate of product in the soil, which we do, and if Mother Nature throws too much rainfall at us, we'll just treat the crabgrass and other weeds with a post-emergent later in the season.

Fertilizers also need watering into the soil before the soil nutrients can be taken up by the turfgrass roots. Nitrogen, the main ingredient in lawn fertilizers, can be either water soluble (quick-release) or water insoluble (slow-release). At LawnAmerica, we apply a high quality 50%-70% slow-release Nitrogen (N) fertilizer with our Round 2 treatment. So while there is plenty of N to green-up the turf quickly, there is also plenty to stay in the soil, even under excessive rainfall, and provide N for continued release up to about 11 weeks. One reason we use this fertilizer with much more slow-release N than our competitors is we want it to stand up to spring rains, and not leach all out of the topsoil. Quick-release soluble N sources such as Urea are good, and will green-up the turf within a week of treatment. But the Urea is either utilized or dissipates after a few weeks, especially with excessive rainfall or irrigation. So think of the slow-release N component of our fertilizer as being "backup" for the quick-release N.



Research shows that healthy turfgrass has a positive impact on the environment by decreasing runoff and leaching of soil nutrients, along with all the other positive benefits such as heat reduction, oxygen generation, soil erosion control, etc. Studies also show that thick, healthy bermudagrass that is well cared for, including proper

fertilization, do a much better job of absorbing soil nutrients and preventing N leaching through the soil compared to thin, under-fertilized turf.

So by using a high rate of slow-release insoluble N, as we do at LanwAmerica especially during the spring, applying at the proper rates, and building up a healthy turf root system, leaching of nutrients due to excessive rainfall is really minimal. And anything a homeowner can do to increase the depth and density of the root system can help even more to decrease the loss of N due to leaching. Some of those include:

- Mow the turf a little higher than normal, especially during summer and fall.
- Water deep, yet infrequently, to train those roots to grow deep.
- Aerate your lawn during the summer.
- Subscribe to our new LawnAmerica Soil Builder liquid organic-based soil amendment.

Phosphorus (P) and Potassium (K) are other nutrients found in turf fertilizers. We use very little P, as it is usually abundant in soils, unless a soil test shows a deficiency. It is very insoluble in soil and tends to stay put. Potassium is important for the root system, with an average of about 22% of our fertilizer nutrients being K (most is N). Potassium is not as water soluble as N, so it does tend to stay in the soil longer. We also apply much of our K in early fall, when the chances for excessive rainfall are much less.

Organic Nitrogen sources are also water insoluble, and will hold up to excessive rainfall and don't really leach through the soil. At LawnAmerica, most of our fertilizer blends also contain a small amount of organic content, especially when we treat fescue turf in the summer. And, we do have an all organic option for customers, if they prefer a fertilization program with all organic-based fertilizers. Organic fertilizers are much more expensive and are slower to work. Your lawn will not be as green, but organic nitrogen and soil amendments do help soil biology, and lead to a stronger root system and turf.

In summary, yes, weather events such as excessive rainfall can affect what we do and the performance of some of our products and the turf. All we can do is use the very best products, which we do, such as slow-release fertilizers and Barricade pre-emergent. We apply them properly at the proper times. Sometimes in spite of that, the control of weeds and performance of fertilizers will not be perfect. We always ask that if it does rain excessively or too soon after a lawn treatment, give it some time to see how the turf responds and if the existing weeds are controlled. It can take from 1 to 2 weeks generally to make that determination. We can't just assume that rainfall "washed away" the treatment, because in reality it probably had minimal effect on it. And if we came out and just applied the same treatment again, it could do more harm than good.

Contact us then at that point if things just don't look good, if too many weeds are present, if the turf does not green-up well, etc. and we'll come out again promptly at that point for a free service call and do whatever needs to be done to make things right.

For more information, probably much more than you want, go to http://edis.ifas.ufl.edu/ss496. This is a University of Florida publication, where nutrient runoff is a big topic. All research on this topic related to fertilizers can be found here.