"Seasons of South Florida"

This year's "winter" got about as cold as possible without having catastrophic freeze damage on our tropical plants and palms. Even though the perception for Florida is a humid, rainy paradise, we do have a "season" where the rain goes away, and the heat cranks up. Here in south Florida, we identify them as "wet" and "dry" seasons.

So how does this affect your property and landscape?

First, your irrigation system is the only source of water for your plants and turf. The landscape and turf around your home love natural rainwater more than any other supplemental irrigation. The rain acts as a "natural" fertilizer, bringing nitrate and ammonium nitrogen into lawns. When the rain turns off, the landscape now lives off the irrigation system and fertilizer that has been applied by us, the maintenance company! During this time, we do the best to ensure your yard stays as green and healthy as possible until the rain turns back on.

Secondly, during this time, you will see very quickly if the irrigation is not hitting a plant or turf grass because the leaves start to curl, and the blades of grass have a brown hue. It is ok, the plant is not dead, but we do need to adjust and check the irrigation to makes sure the plant gets the water it needs. Once every month, we complete a routine wet check to ensure everything is working properly and coverage is as it was designed.

Thirdly, the number one complaint during dry season is the "dry" spots. Please see below for an article with more information. If the conditions become just right, we cannot do anything about hot spots, and it will be a part of the landscape until we get help from mother nature with rainfall again.

Dry Spots

As an Irrigation Maintenance Company in Southwest Florida, there are two specific times of year when we are inundated with call about stressed grass – better known as the dreaded dry spots.

In October – November, after the summer rain faucet is suddenly turned off, grayish – brown patches will begin to appear in the turf. It is assumed that these patches are signs of damaged sod or an indication that the grass is not getting sufficient water. However, neither of these assumptions may be true.

Southwest Florida can get an average of eight to fifteen inches of rain per month in the summer between June and September. This overabundance of precipitation can saturate our lawns. This is evidenced by the standing water in our swales, retention ponds, streets, and rising lakes. The ground is just not able to take in the water as quickly as it ought.

Because of the excess rain, the deeper turf roots will begin to rot, and what's left of the roof will not have to grow to more than 1"-2" to find water. With the roots so shallow, the grass is not as healthy as it should be and is susceptible to intrusion by weeds and bugs. As long as the rains continue the grass will appear green (if it doesn't develop a fungus from the saturated roots and standing water on the blades.) But what happens once the summer deluges stop?

As the water levels in the ground subside, the now 1" – 2" roots will need to grow deeper to reach the water. This growing process will cause the grass to put the majority of its energy into its downward thrust to find water and the nutrients dissolved from the moist soil. Because of this focused energy the leaf above ground is showing signs of stress.

Many believe the answer to this is to add more water through as irrigation system to bring up the level of water to its previous levels, thus eliminating the stressed look. But this is the worst thing you could do for your lawn at this time – especially if you are trying to maintain a healthy, bug-free, weed-free yard. The best thing would be to allow the sod time to root properly, keeping an eye on it and adjusting watering times to only add just enough moisture to keep the grass from going from stressed to dying. When the roots reach the proper depth, they will be able to drink in the moisture and nutrients they need to turn green and plush again.

Unfortunately, about five months later the second period of dry spot inundation occurs. In Southwest Florida, April and May are usually listed as the two driest months of the year. The cool fronts that move through the area bringing varying amounts of rain in the first three months of the year have usually ended by the close of March. Now, the turf relies solely on supplemental watering from an irrigation system or a hose for its moisture. This in itself may not be a problem, but with the added Perfect Storm that generally occurs in these two months, dry spots can become a formidable enemy. The name of the Perfect Storm is ET.

Evapotranspiration (ET) is sometimes jokingly referred to as negative rain. Not only is there zero rainfall from above at the time, but nature itself is removing moisture from

the soil through Evaporation (the process in which liquids turning to a gas) and transpiration (the process in which a plant or grass exhales water vapor through its leaf or stem.) ET, the combination of these two processes robs the soil and plant of its much-needed water.

There are *four factors* that affect ET: Solar Radiation, Humidity, Temperature, and Wind.

- Solar Radiation is the amount of Solar Energy that reaches the surface of the earth. In April and May the amount of Solar Radiation is 1.6 times as much as in January, making it a key factor in the increase in ET.
- Humidity is lower in these two months – around 78% compared to 85% in January or February. Since Humidity is actually moisture in the air, the less humidity in the air, would allow for more ET to occur.
- Temperatures are definitely higher in our two driest months. The average high temperature in January this year was 79 degrees (F). The average in April was almost 86 degrees. This increase in temperature only adds to the negative affect ET has on landscaping.
- Wind seriously accelerates evaporation – especially the hot, dry wind of April and May. Average winds in January usually reach about 8 mph while April and May will generally average 11 – 12 mph.

So, the perfect Storm occurs: no rain, higher solar radiation, higher temperatures, stronger winds, and lower humidity. It seems the green grass does not have a chance under these conditions. What can be done to help it survive?

As stated earlier, the only way to keep grass alive under these conditions is with irrigation. Unfortunately, many communities do not have the ability to turn up the irrigation to run long enough or often enough to overcome the ET in addition to putting down the one inch of water per week required by turf. They are limited by the amount of water allowed by the South Florida Water Management, time and day restrictions put on by state, County or City regulations: by the lake levels that are also affected by ET, or restrictions put on by State, County or City regulations: by the lake levels that are also affected by ET, or by the sheer number of zones that would limit the amount of time that can be added to the watering cycle.

The average ET on record for April of this year was 0.15 in. per day (two and a half times higher than January's 0.06 in. per day.) That amounts to over and inch of ET a week. If an irrigation system is adjusted to put down one inch per week and the ET is just over an inch a week, how much water is actually making it to the roots of the grass? Zero. Thus, we have dry areas throughout the property. If the irrigation cannot be adjusted to

overcome all of the ET, dry spots will occur. Add to that a clogged nozzle, a broken rotor gear, a shrub-blocked head, less than 100% overlap in coverage, bad ground compaction, or heat from concrete and asphalt- you have a perfect recipe for dry grass. Since the 0.15 inches per day of ET recorded for April is an average, some areas of a property may be experiencing more or less affect from it.

The side yards may be shaded and not receiving as much solar and not receiving as much solar radiation or wind, so they are not affected as much as, say, the front yard that is in the direct sunlight in the middle of the afternoon. The areas along a driveway, sidewalk or street or street will be experiencing much higher temperatures than other areas and may show signs of stress faster. Some areas of the yard may have better soil composition than others and are affected less than other areas with compaction problems. These varying eco-systems are the reason that generally you do not see a whole yard going brown at the same time, unless there is no water at all getting put down.

The conclusion, therefore, is that dry spots are a fact of life in Southwest Florida. As an Irrigation Management Company, we do our best to keep entire lawns green – however, nature is a very formidable adversary.

So when are the wet and dry seasons?

The wet season typically runs from mid-May to November. It produces the vast majority of the region's average annual rainfall, approximately 60 inches. Temperatures often reach into the 90s, and humidity levels are high. With sea breeze fronts developing along both the Atlantic and Gulf Coasts, thunderstorms can occur almost daily during the summer months.

The dry season runs from December to mid-May. Temperatures at that time of year range from the mid-50s to upper-70s, and humidity levels are relatively low. On occasion, continental cold fronts dip down into south Florida, bringing near-freezing temperatures to the region. Any rain associated with these frontal systems tends to sweep through the area quickly. Only about 20% of the region's average annual rain total falls during the winter months.

South Florida's largest rainfall totals are usually associated with tropical storms and hurricanes, which are not uncommon between June and November