



## Ray Smith & Associates, Inc. Dealing with Drought in Your Landscape

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Here on the east end we are experiencing one of the worst droughts in my memory. After a spring season of downpours and flooding we have now gone to the other extreme. Although we have talked about the effects of this & how to get your plants through these conditions previously, we think the subject bears more discussion. Even with some recent thunderstorms it remains critically dry & we are seeing more and more signs of drought stress in the landscape. Fortunately, there are steps that can be taken to mitigate the drought's effects, many of which we detail below. As we have over the last 35 years we stand ready to assist.

Ray Smith  
CEO

Drought and high temperatures are a one-two punch to trees, shrubs & lawn. Plants lose moisture from their leaves in a process called transpiration. As temperatures climb, transpiration kicks into overdrive. Dry hard and compacted soil limit the ability to replace this water.

Excessively dry soils have little available oxygen, without oxygen plant roots begin to die. Lacking available water for normal growth, plants adopt survival strategies. Precious energy reserves must be used decreasing stored food weakening the plant now and into the future. Keeping plants healthy with soil conditions, fertilization, [proper mulching](#) and [efficient irrigation](#) will make for healthier plants with stronger root systems and greater energy reserves, making them both stress tolerant and more resilient.

Most roots are in the upper 1 to 2 feet of soil. If plants are watered frequently and lightly, roots remain close to the soil surface. When drought strikes these plant lack the ability to access the moisture present deeper in the soil. Slow, less frequent watering allows thorough water penetration into the soil encouraging deep, healthy roots. The goal is to keep plant roots moist, but not wet.

Newly planted trees and shrubs, without established root systems, are most vulnerable to periods of high temperatures and low rainfall. Deep rooted plants that are well-established and adapted to their site are able to obtain water over shallow rooted ones. Lawns require the most water, annual and perennial flowers planted in full sun are next, shrubs follow, and mature trees are the least needy.

In deciduous trees & shrubs, curling, bending, rolling, mottling, marginal browning (leaf scorching,) chlorosis, shedding of leaves, reduced growth and early autumn leaf drop are all responses to drought. In conifers, drought may cause yellowing and browning of needle tips & considerable needle drop. Water stress predisposes plants to damage by insect pests and disease, attacking stressed plants more often than healthy, vigorously growing ones. The unfortunate results of drought are often observed the following season with [pest damage & disorders](#) that seem to appear overnight, but in reality these problems began the season prior. This fall as (hopefully) weather conditions improve, a [deep root natural fertilizer](#) injection will help re-build plants energy reserves. Now, monitoring and adjusting irrigation systems & adding mulch to planting areas can help.

Without supplemental watering in summer, lawns often will go dormant, turning straw colored, and resume active growth when conditions cool and rainfall returns. The downside of this dormancy is the poor appearance of the lawn and the risk of problems arising on the inactive lawn, such as weed encroachment. Drought stress occurs faster on turf stands with poor soil conditions underneath. Soil compaction, low pH, and other restraining conditions for root growth become very evident. Although immediate corrections may not be possible, make note of problem areas that can be addressed later. Simple adjustments to irrigation systems right now can however, probably mitigate effects.

Early signs of drought stress may be evident with grass turning a dark blue/green color (the areas look "black & blue"). Another sign, the grass blades do not 'spring' back up when walked over, but remain compressed. Lawns require an inch or more of water per week to avoid stress and going naturally dormant. Most lawns have "hot spots"- sections with thin topsoil, septic covers, sandy conditions, poor irrigation coverage; misaimed, damaged, and/or poorly laid out sprinklers. These areas are the first to exhibit symptoms.

Increasing the cutting height, and always cutting with sharp blades, will help to preserve more moisture in the turf. Mow lawns higher for the summer, a range of 2.5 to 3 inches is best. Mowing should be frequent enough that no more than one-third of the leaf blade is removed in any one cutting. Do not remove grass clippings when mowing. Clippings return valuable nutrients to the soil; are 85% - 90% water, help moderate soil temperature & improve soil moisture retention. Control weeds, as they compete with the lawn for water. Avoid applying quick release nitrogen fertilizer during hot, dry conditions. Grasses will respond by putting out excessive growth, further stressing the root system. Whenever possible, limit traffic of any type on the lawn. [More information on lawn care practices...](#)

To aid in turf recovery, once temperatures cool down, fertilize to encourage the recovery and minimize weed encroachment. [Overseeding](#) areas that died or look particularly thin is best done at this time. [Dethatching and aerating](#) in the fall on established turf helps develop a deeper root system, which makes it better able to withstand drought. [Top dressing with compost](#) stimulates root growth and healthy soil biology. For lawns with problems that reoccur year after year, with the lawn looking progressively worse it may be time to consider a complete renovation.

Under our current extreme conditions it has become easy to observe the quality and efficiency of an irrigation system. Are there dry brown patches (as noted on the photo) on only certain areas of your lawn? Are some trees and shrubs in the same area suffering more than others? This suggests that your irrigation needs some fine tuning. Do keep in mind that there is no substitute for natural rainfall. Sprinkler systems are designed to supplement nature. It is very difficult to completely compensate for such a large deficit of rainfall, but a properly designed, calibrated and maintained system can come close and preserve the current appearance and most importantly the long term health of the landscape. If you have a concern about your plants and irrigation system, do not hesitate to [contact us](#) for a complimentary consultation. We can evaluate your system, increase its efficiency and performance, helping to preserve and enhance your precious landscape.

[What sets us apart?](#) Not only are we irrigation experts, but as [certified arborists](#) & [experienced, trained horticulturists](#) we understand the water requirements of your plants, soil interaction and how to keep them properly watered, healthy & beautiful. We can also provide the necessary mulching and ongoing care needed for the plant's recovery and long term beauty and health.

[More information & Tips...](#)

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