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**SYMPTOMS OF DROUGHT STRESS**

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We aren’t in an official drought, but everyone knows that we need rain and that the lack of it is causing stress to our plants and farmers. The symptoms of drought stress on a plant are many and varied. Often, leaves turn dry and brown on the edges and tips, or turn unusual colors such as bluish-green, and may curl upward.

Leaves may also fall prematurely, on a tree beginning at the top center of the canopy. Grass blades will change color to a dull, bluish color and may curl; also, when you walk over drought stressed grass, your footsteps will still be visible. Trees might put out new leaves at this time of the year, which die later in the growing season because of depleted food reserves. This can happen for a year or two after a severe drought.

A flowering or fruiting tree or shrub stressed by drought might have buds that fail to open or that drop while still in the bud stage, as well as early fruit drop or fruit that don’t reach their normal size. Other symptoms, as a drought continues, are twigs, and then branches that start dying from the tips, leading to an overall decline.

Keep in mind, though, that some of these same symptoms can be due to other causes such as compacted soil, overwatering, mechanical root injury, freeze, and improper pesticide use. For example, most of the Norfolk Pines in our area turned completely brown and many died, a couple years ago. Looking at the trees, the first thought was that it was caused by lack of water. However, it was actually freeze damage; that plant is tropical (from Norfolk Island in the south Pacific) and not a true pine. So, consider weather and cultural practices, and characteristics of the plant along with the symptoms when making a diagnosis.

Sometimes it can be difficult to tell if a shrub or tree has died or has simply gone dormant and appears dead. Two simple tests can help determine which it is. The twig test just involves bending small (1/8” diam.) twigs; if they snap, it could mean the tree has died. But, if they bend and don't break, the tree is probably alive. Test several twigs. The scratch test is my favorite; use your fingernail to scrape bark from a small twig or branch. If the tissue under the bark is green and moist, the tree is still alive. If you have any doubt, give it another month or two to see if it grows, it is still relatively early in the growing season. Do not be in a hurry to remove it.

There is no way to tell if soil has sufficient moisture in it by looking at the surface. You must dig or probe (or use a high quality soil moisture meter). Use a trowel, screwdriver, metal rod, or soil-sampling tool. If nothing else, poke your finger into the soil to check if it is just the surface soil that has dried, or if it is dry down deep. Very dry soil will be difficult to penetrate. Ideally, soil should be moist but not saturated. If it is saturated, there will not be enough oxygen and the roots will die.

Plants prefer a good soaking, infrequently, rather than a light watering every few days. A deep once a week watering that wets the soil 4-6” deep is excellent for lawns. The leaf blades might show some early signs of drought stress, but the grass can handle it, and in time the roots will grow deeper and deeper and the grass will become more drought tolerant. More problems (mostly disease) on lawns are caused by too frequent watering, than by not frequent enough watering.

Shrubs and trees that are established can go even more days between soakings, and would benefit from the soil being wet a couple feet deep, although many shrubs will be happy with once a week applications.

Luckily, this schedule plants like fits right in with our Stage 2 mandatory water conservation, which everyone who gets water from the San Patricio Municipal Water District (which includes most of the Coastal Bend) must follow. It limits watering to once a week between 6:00 p.m. and 10:00 a.m. (I recommend the early morning hours rather than evening). The watering schedule is: Tuesday – even numbered residences, Wednesday – odd numbered residences, and Thursday – multifamily and commercial properties. Watering can be done any day with a handheld hose (with a positive shutoff nozzle), watering can, or drip irrigation (with positive shutoff device). Property owners using water wells for irrigation are exempt from the restrictions; however, looking at the big picture, the water all comes from the same place, so well owners are encouraged to practice conservation as well (or should I say, “also”).

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