

COMMON PLANTING PROBLEMS GETTING TO THE ROOT OF THE MATTER

Root problems are the number one cause of tree and shrub death in the home landscape. Root problems are suspected when a plant is showing chlorosis, poor growth, leaf scorch, and die back of the branches and twigs ... even though the general care, including watering and fertilization, given to a plant sounds adequate. Here are some of the most common root problems that lead to plant death in our local landscapes.

Planting Too Deeply

Tomatoes don't mind a deep planting and roses seem to tolerate it fairly well but most trees and shrubs suffer when they're planted too deep. When planted too deep, plant roots are not able to get enough oxygen. Instead of growing, the roots suffocate and die. Root and crown rot are common problems when trees are planted too deep. Trees and shrubs should be planted at the same level as they were in the nursery or just slightly higher to allow for some settling of the soil. This means that the top of the root ball should be at or just below the soil surface.

If you have trees or shrubs planted in the last five years that haven't grown very well and have exhibited chlorosis (yellowing of the leaves), leaf scorch (brown tips and edges of the leaf), and die-back of the twigs, check to see if the roots are too deep. It's easy to verify this. Just take a garden trowel and start digging down at the trunk of the tree. You should be able to find the top of the root ball very easily ... just under the top of the soil. If you must dig down more than two to three inches to find the root ball or roots, you and your plant have a problem. While troublesome, replanting at the right level is probably the only real solution.

Improper Planting

Improper planting is suspected if the plant looks okay but doesn't grow much after several years from the time of introduction into the landscape. After the

first several years, the plant begins to decline, often with symptoms of leaf scorch and chlorosis.

Encircling roots should be gently spread before planting. Dense masses of fine fibrous roots need to be cut and teased out of the root mass. Paper pots and burlap should be torn away or removed from the root ball once the plant is situated at the right level in the hole and positioned correctly. This is especially important if the burlap is green or has a green tint to it. This burlap has been treated with a copper solution to keep it from rotting in the nursery. Copper is toxic to roots, so roots will not grow through this copper "barrier" even after the burlap begins to rot.

You can check for root growth by digging down at the edge of the original root ball. Look for any root growth that has occurred since planting. If plant roots weren't spread and in contact with the surrounding natural soil in the planting hole, it's likely that roots have not grown out from the original root mass.

This problem occurs most frequently with plants grown in plastic pots, especially when the plants are simply "popped" out of the pots and plunked into a hole without any loosening of the root ball. If someone else planted your landscape for you, you may want to check the situation of the roots before problems become apparent. Uh-Oh, replanting is the only recourse in this situation too.

Watering

Because many container grown plants are grown in a "soil-less potting mix" which is a coarse mixture high in peat moss or other organic matter, water may not move easily from the surrounding soil into the root ball or out of the root ball. You may have to water the individual root balls directly and not rely on sprinkler irrigation to provide adequate water in this situation.

It's especially important to keep the root ball of recently transplanted trees and shrubs moist for the

first several months after planting. Their roots are confined to a limited space, so they're unable to reach for moisture further outward or downward in the soil. With our typical local summer climate, it's essential to pay close attention to watering the first summer after planting. However, it's also important not to drown plants with too much water. Don't allow water to puddle around the trunk or keep the roots saturated for any length of time.

How can you tell if it's dry, moist, or too wet? Use a trowel, shovel, or soil tube to check for moisture in the root ball. A dry soil will crumble when you try to make a ball of it in your hands; a moist soil will form a ball; and a wet soil will be muddy with excess water that can be squeezed out.

Root Damage

Root damage can occur from any number of situations. The most common cause of physical damage is from some type of construction project, such as trenching for utilities, driveway installation, or digging of septic systems. Roots are often cut to accommodate the construction without the consideration of the damage caused to the tree. Cutting off major roots, severs the main "pipelines" for the tree. The tree can no longer access water and nutrients through the severed roots.

Root damage can also occur from a change of grade. The roots absorbing nutrients and water for the plant are in the top one-foot of soil. Changes of grade in excess of four inches can severely reduce the amount of oxygen and water reaching these roots, eventually killing the roots. In some cases soil compaction and not extra soil from a change in grade, can lead to the decline and eventual death of a tree. Soil compaction also restricts oxygen and water uptake by the roots, leading to root decline and death. Soil compaction is often associated with roads, driveways, use of heavy machinery but it can also develop over time simply from foot and animal traffic and sprinkler irrigation. Moderate compaction from foot traffic can be partially alleviated with the use of a mechanical aerator.