GARDEN TOPICS

Too Much Water!

On the whole, plants are very resilient, tenacious organisms. Especially those that manage to survive the weather extremes our area dishes out. When you consider those areas that spent weeks flooded this spring, our landscape problems may seem insignificant. But when you drive through those areas after the water recedes, you'll see most of the plants survived and lawns still have to be mowed. The fact that the plants were dormant when the flooding happened actually helped them survive.

After all the rain we've had these past few weeks, some plants are likely to be negatively affected. Much of our area is well-drained sandy soil, but there are some large areas of clay, too. We are fortunate that the rains had some brief respite to allow some drying and some of it came down fast enough that it didn't have time to soak in.

How well landscape plants tolerate excessive moisture varies greatly from species to species. It can also be influenced by the age and general health of a plant before having to deal with the water and the conditions these stressed plants will be exposed to once the water abates.

So, with all these factors working together, predicting how a plant will be affected is somewhat of a guessing game. But there are some things we can expect, especially with certain types of plants.

First, What Actually Happens

The vast majority of plants need to grow in soil that has room for air between the particles of soil. Plants can literally drown just like people. If their roots can't breathe, they die of anoxia, a lack of oxygen. Working leaves give off oxygen as a waste product, roots use oxygen as we do. When soil is waterlogged, roots and soil organisms use all available oxygen, giving off carbon dioxide. If the situation persists, some minerals in the soil are changed into soluble forms that are toxic. Various other substances begin to build to toxic levels, too. On the whole, plants can "hold their breath" for a short while when the situation is temporary. Plants also have several other adaptive mechanisms to help get them through a crisis, but they are not the most efficient ways of functioning and create other side effects.

In addition to affecting the root system of plants, excessive moisture leads to a number of foliage diseases caused by fungi that thrive in humid conditions.

Lasting Effects on Plants

Some plants simply adapt temporarily and go right on without any long term effects when the excess water situation is resolved. But on many plants, there is damage whether it shows or not. Roots can lose their ability to take up moisture and minerals even when moisture levels return to normal. In that case, a plant can die of drought immediately after the excess water is gone just because it can no longer absorb the water that is available. Roots can also be so damaged that decay sets in. When soil has been saturated for very long, many of the necessary microorganisms that help create a hospitable environment for plant roots are wiped out. When this happens, plants tend to be more susceptible to fungal diseases. This is because roots have been damaged and because the excess water physically spreads disease pathogens throughout the soil. It may be months before a plant regains its natural resistance.

Immediate and Short-Term Effects on Landscape Plants

Because very few deciduous plants have leafed out, we won't see the easily visible signs (such as wilting or discoloration of leaves) to signal us that there is a problem. We just need to keep in mind that plants are beginning this season under stress. The only immediate signs of trouble may be with certain herbaceous perennials such as delphiniums and lobelia that are easily damaged when their crowns stay too moist. Perennials with fleshy roots (rhizomes, tubers and bulbs) may rot. We may also see more foliage diseases and see them earlier in the growing season. Lawns may get more fungal diseases if excess moisture and high humidity
continues. While lawns are wet, it is very important to stay off them to avoid compaction, which leads to other problems.

Tolerance of Specific Plants
Below is a list of some of the more common plants grown in our area and how tolerant they are or are not of excess water. Keep in mind that the age of the plants and their general overall health influences tolerance.

**Landscape Plants**
**Tolerant:** Redtwig Dogwood, Deciduous Holly, Larch, Red Maple, Elderberry

**Intermediate Tolerance:** Arborvitae, Arrowwood Viburnum, Ash, Japanese Barberry, River Birch, Box Elder, Cottonwood, Elm, Serviceberry Amur Maple, American Cranberry Viburnum, Hackberry, Honeylocust, Silver Maple, Nannyberry Viburnum, Bur Oak, Pin Oak, Black Spruce, Sycamore, Pussy Willow, Willow.

**Intolerant:**

**Annuals, Perennials, etc.**
**Tolerant:** Monarda, Physostegia, Goatsbeard, Astilbe, Turtlehead, Snakeroot, Meadow Rue, Ligularia, Cardinal Flower, Forget-Me-Not (Brunnera) Spiderwort, Gooseneck Loosestrife, Ajuga, Balsam, Mimulus

**Intolerant:** Sedums, Garden Lilies, Rosemary, Lamium

**Conclusion**
Some plants are so susceptible that they can go from healthy to dead in a matter of days. Others can take waterlogged soil for weeks without exhibiting any symptoms. If the plants in question are established and were healthy when the excessive water started, and are not on the intolerant lists, they will probably be O.K. We are just going to have to wait and see. Hopefully, if it does continue to rain, it will at least give us an occasional day or two for the susceptible plants to gasp for air before it pours again.