

Hot Dry Weather Causing New Garden Problems

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Just a few weeks ago in this column, I was covering all of the disease problems brought about by the rainy weather we had earlier this spring. Since then, the “spigot in the clouds” has been turned off, and the temperatures have ratcheted up to the 90s. We saw this pattern last year, and we can expect a repeat of some of the growth problems we experienced previously.

In the garden, earlier wet soil conditions hampered root development, especially on new plants. Roots need oxygen, and will usually grow in a zone where they get the right mixture of air and water. If the rain events (or irrigation) is heavy but infrequent (basically, a good drenching once per week), the soil will provide enough air and water for optimum root growth.

However, when it rains constantly, the soil becomes saturated. The air is driven out of the soil’s pore spaces. If this situation lasts long enough, the roots begin to suffocate. Temporary soil saturation can cause a restricted and shallow root system and slowed growth of above-ground parts. Other symptoms we could (and did) see include leaf roll, stunting, and yellowing of the foliage.

If the weather had gradually shifted to drier conditions, the soil would have slowly dried out. The roots would have recovered and continued normal growth, moving progressively downward to follow the soil moisture level. Our garden plants would recover and return to normal growth, including blooming and fruiting.

But that’s not what’s happening. The soil is drying very quickly from the surface downward. Although there is plenty of moisture several inches down, the damaged root systems can’t reach it. Roots don’t grow “looking” for water; they only grow where there is water.

The sudden heat and dryness is also putting extra stress on the plant. Water is being lost through the leaf pores (transpiration) faster than the damaged root system can absorb it. As a result, plants which were drowning a week or two ago are now parched. If these conditions continue, plants will put on minimal new growth, and may not bloom or produce fruit...exactly what happened last year.

The best way to help garden plants survive the current heat and dryness is to irrigate. Normally, I recommend one heavy soaking per week, providing the equivalent of one

inch of rain. However, this is going to allow the soil to dry out too much between waterings for the stunted and shallow roots to survive. Therefore, I suggest that, at least for the next month, water twice each week, providing between one-half and three-quarters of an inch of water with each irrigation. Water early in the day to prevent disease problems as well as loss from evaporation.

For more information on garden care, contact the Purdue Extension Service at (812) 435-5287.