



Trees and Drought

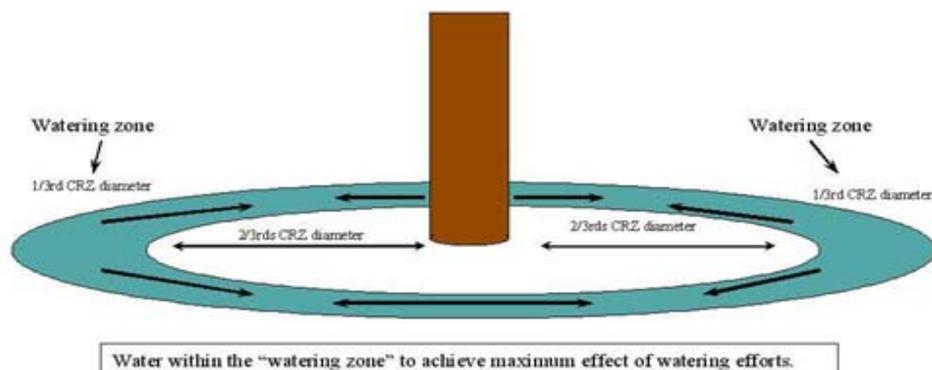
By: Dr. Kim Coder

Drought is a main contributing factor to shade tree decline. Extended drought can influence the health of shade trees by the loss of absorbing roots which are found primarily in the top 8 to 12 inches of soil. Once this soil area dries, many of the tree's absorbing roots dry out and die. Leaves and stems can also be damaged by drought conditions, especially when there is not enough water available for evaporative cooling and food production.

Some types of trees will be inherently more susceptible to drought damage that occurs in mid-spring as compared with a summer drought. A season-long drought period with high temperatures can adversely affect all trees even if supplemental water is added. Trees may not readily show initial symptoms because of stored carbohydrates and essential elements in the woody tissues. As soon as these stored foods are near depletion, the trees begin to prematurely defoliate. Other drought symptoms can be delayed two or more years making it hard for many to believe that drought was actually the problem.

Although irrigating trees during periods of drought is recommended, frequent and shallow watering contributes to shallow root development. This increases the chances for drought injury as well as the potential for winter injury during periods of extremely cold weather. When watering, be sure the moisture reaches depths of at least 5 to 7 inches. Water once every three to four days during periods of severe drought. Watering everyday may contribute to the decline of the tree because the activity of many parasitic and pathogenic organisms, like root rot, is stimulated by too much water. The amount of water to apply depends upon soil texture and potential size of the tree rooting area. Clay soils can be easily overwatered which destroys tree roots.

Source: Kim D. Coder, Professor of Community Forestry, Warnell School of Forestry and Natural Resources, The University of Georgia.



Note: CRZ is Critical Root Zone or 1.25' radius for each inch of trunk diameter at 4' above the soil.