

## Effects of flooding on trees



William O.  
**TAYLOR JR.**  
State Gazette  
Columnist

The excessive rainfall and flooding such as that which occurred in parts of Tennessee at the beginning of May can affect tree health and be detrimental to trees. When major rivers such as the Tennessee and Mississippi overflow, the backwaters also cause the smaller tributaries to overflow. This information is according to Wayne K. Clatterbuck, Professor of Forest Management, the University of Tennessee. A few of inundation during the dormant season, when leaves are not on the trees, has little effect on trees. However, flooding during the growing season, especially during and after leaf out, can be very harmful. Flooding results in poor soil aeration because the oxygen supply to flooded soil is severely limited and leaves are demanding resources from the roots to survive and grow. Oxygen deficiency is likely the most important factor inhibiting growth and promoting injury in flooded trees. Most trees will not tolerate the anaerobic (oxygen limited) conditions of standing or puddle water, but will tolerate the more aerobic (oxygen less limited) conditions of flowing water for a few days during the growing season. Water duration, water depth, frequency of flooding and seasonality are all factors that can affect tree health in flood prone areas.

Once trees are stressed by floods (symptoms can include leaf chlorosis, defoliation, reduced leaf size, sprouting and crown dieback), secondary organisms, particularly opportunistic fungi, insects and disease, can capitalize on the declined

vigor of trees, invade the host and further weaken the tree. The symptoms may progress and could eventually lead to the death of the tree, especially if the tree is further influenced by environmental stresses such as droughts and high temperatures later in the summer. Generally though, flooding does not occur every year and the stress subside indicating the tree is on its way toward recovery. Most trees are fairly resilient to environmental stress when they are young and vigorous. Older mature and over mature trees with less vigor are more susceptible to environmental stresses.

Some tree species tolerate flooding more than others. The following list is a guide that was synthesized from the published literature categorizing flood tolerance for tree species. Regional differences and a wide variation of the individual species may exist between the tolerance categories. The list can be used in making species selection decisions for planting trees and managing forests in flood prone areas.

More tolerant to flooding: Boxelder; red and silver maple; water willow, Nuttall, pin and overcup oaks; water hickory; pecan; sycamore; button-bush; water tupelo; bald cypress; sweetgum; green ash; sugarberry; hackberry; persimmon; cottonwood; and willows.

Intermediate tolerance to flooding: sugar maple; hawthorn; holly; elms; bur; swamp white, Shumard, cherrybark, and swamp chestnut oaks; blackgum; river birch; and honeylocust.

Less tolerant or intolerant to flooding: redbud; dogwood; black walnut; black cherry; mulberry; shortleaf and loblolly pine; shagbark, mockernut and pignut hickories; sourwood; white, post, black, and northern red oaks; sassafras; and

black locust.

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## AG BRIEF

### Enrollment deadline for DCP and ACRE

Dyer County USDA Farm Service Agency (FSA) Executive Director Don Smith, wants to remind farmers and landowners that they have until Wednesday, June 1, 2011, to enroll their farms in the 2011 Direct and Counter-cyclical Program (DCP) and the Average Crop Revenue Election (ACRE) Program. More than 75 percent of an expected 1.7 million farms have already enrolled.

"The deadline to enroll farms in the 2011 Direct and Counter-cyclical Program and Average Crop Revenue Election Program is quickly approaching," said Don. "Producers who want to participate must act. Farmers and landowners must enroll their eligible farms no later than June 1, 2011, to take advantage of these important programs."

Producers who choose to participate in either the revenue-based ACRE safety net or the price-based DCP safety net must enroll their farms each year. All owners and operators who will share in the DCP or ACRE payments on the farm must sign the enrollment form (CCC-509) by June 1.

Since 2009, producers have had the option to participate in either DCP or ACRE. A producer who initially chose to remain in DCP has the option to

switch to ACRE during the current enrollment period; however, producers who chose to enroll in ACRE cannot switch back to DCP.

For more information on DCP or ACRE, contact a nearby FSA county office or visit the FSA website at [www.fsa.usda.gov/dcp](http://www.fsa.usda.gov/dcp).

#### DEADLINE TO FILE PREVENTED PLANTED AND FAILED ACREAGE

##### Prevented Planted Acreage

Prevented planted acreage must be reported to the Farm Service Agency no later than 15 days after the final planting dates. The final planting dates are as follows:

Upland Cotton May 20  
Corn May 20  
Rice May 31  
Grain Sorghum June 10  
Soybeans June 15

##### Failed Acreage

Failed acreage must be reported to the Farm Service Agency within 15 days of the disaster event and before disposition of the crop.

Producers who wish to file failed or prevented planted acreage will need to contact the Dyer County Farm Service Agency (731-287-9224, X 2