

Sarah Denkler  
Horticulture Specialist  
May 22, 2011

### **Saturated Soil**

Many, if not all of you have had soils that have been wet since the beginning of May. In some cases soils have been flooded from excessive river levels on all sides. So you may or may not be wondering how the excessive water has affected the soil in your yard.

One thing that can happen with excess water is leaching of nutrients out of the soil. This may be different depending on if the soil was saturated due to flooding or from rain. In either case, a soil test taken before the high levels of water saturation are likely not an accurate account of the soil you have now. If you applied fertilizer already, you may need to reapply nitrogen again. Do not add lime unless you have a soil test taken after flooding that confirms how much you need to add.

Most turf will begin to die after being submerged for 4 days under water. This is a result of low oxygen and possibly from lack of light. If your yard was not flooded but was over-saturated with water you may still have issues. Saturated soil does not contain oxygen and can affect plant roots in the same way as a flooded area. If it is hot, with the sun blazing down on a saturated lawn the heat can cook the roots just as a casserole cooks in the oven. Temperatures have remained fairly cool during May so this possibility is unlikely.

If water levels rose or flooded near your home then you can have contamination in the water that has subsequently contaminated both your soil and possibly your well. The most common contamination is increased bacteria levels. Other sources could be oils, chemicals and weed seeds. In most cases, once the water dries out and the sun shines on the soil for three weeks, the bacteria will dissipate. Well water should be tested and may need to be shocked to eliminate bacterial build-up.

Another concern is soil structure. Working in the soil or driving equipment over soil that is saturated can lead to compaction and structure breakdown. Do not be overly impatient about getting out and working in your garden or using the mower too soon. Let your yard have time to dry out before you work it. A soil with good soil structure and organic matter can really become hard to work with if the structure breaks down and compacts during water saturation.

*Sources: Kerkhoff, Karen and Minner, David. Caring for Flooded Lawns. G6722. University of Missouri Extension. March 1994. Evans, Eric. Checking and Disinfecting Flooded Wells. AGW102. University of Missouri Extension. March 2009.*

**University of Missouri Extension programs are open to all.**