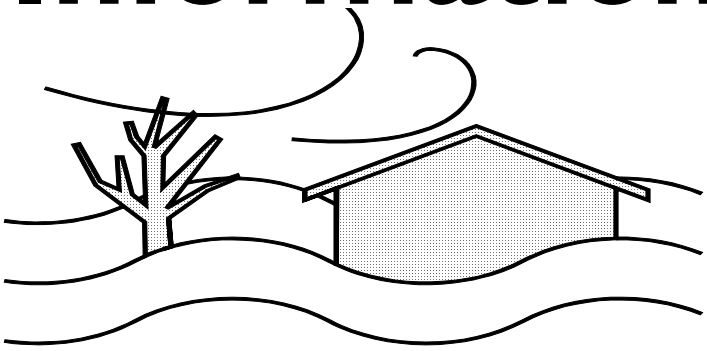
LSU AgCenter Research & Extension

Disaster Information Series



Salinity and Turfgrasses After a Hurricane

The surge of salt water brought inland by a hurricane can cause a lot of damage to turf-grasses on lawns, golf courses, sod farms, parks, playgrounds, sports fields and leisure-recreation sites. Here are suggestions to help turf managers overcome saltwater damage to turf.

Irrigation with clean, sodium-free, fresh water is probably the most important practice to follow when rinsing accumulated salts from turf leaf surfaces and leaching salts from root zones of soils. Test all irrigation water sources for salinity. If the irrigation lake has been flooded with salt water, pump it out and fill with clean river or well water. Or, irrigate from the well or river if not contaminated with salt.

- Bermuda, zoysia, creeping bent and St. Augustine turfgrasses have good relative salinity tolerance (1500 ppm total soluble salts).
- Tall fescue and perennial ryegrass have medium salinity tolerance (800-1000 ppm total soluble salts).
- Red fescue, Kentucky bluegrass and centipedegrass have poor relative salinity tolerance (600-800 ppm total soluble salts).
- Repeated irrigation with water containing 1200 ppm total soluble salts will be harmful to the turf unless followed by sufficient rainfall or fresh irrigation water. Even irrigation water containing 500 to 600 ppm total soluble salts, when used repeatedly without being flushed with fresh water from rainfall or irrigation, can create a problem by allowing salts to accumulate in the root zone of the soil, especially in soils with poor internal drainage.

If it is overseeding time, remember that turf-type perennial ryegrasses have only medium tolerance to salinity. To avoid a loss in stand of winter cover, test the soils for salinity before overseeding. High salt levels are more damaging when the plants are young and the soil is dry. Try to keep the soil moist at least when the plants are small.

Gypsum (calcium sulfate, 18% sulfur, 20% calcium) can be used to help leach salt from the soil. Gypsum works best when incorporated into the soil, but it can be broadcast on the turf. Try 45-50 pounds of gypsum per 1,000 square feet. Gypsum is not very soluble in water, but it is more soluble than limestone. Irrigate after gypsum application to move it into the soil surface and root zone of the turf. Allow time for the chemical reaction, then test soil salinity in 4 to 6 months. Continue irrigation to leach the salts into soil below the root zone. Poorly drained soils will be difficult to leach.

Water logging the soil for extended periods can be as harmful to the turf as excess soluble salts. Core aerification or deep tine aerification, preferably with coring tines, can help improve infiltration and percolation of water and salts through the soil and below the root zone.

For more information, contact your local Cooperative Extension Service office, listed under local government in the telephone directory.

Disaster Safety Facts

1. More injuries occur in the recovery process than during the disaster.
2. Electrical safety is important after a disaster.
3. Slippery surfaces cause falls and injuries.
4. Be sure the water is safe before you drink it.
5. Snakes and vermin are often prevalent after floods and hurricanes.
6. Gas leaks can cause explosions after disasters.
7. Stress levels are often high after disasters. Learn how to deal with stress.
8. Consider all foods that have been in contact with flood water as contaminated.

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