

After the flood

BY DR. DAVID MINNER

Professor, Iowa State University

Questions? Send them to David Minner at Iowa State University, 106 Horticulture Hall, Ames, IA 50011 or email dminner@iastate.edu.

Or, send your question to Grady Miller at North Carolina State University, Box 7620, Raleigh, NC 27695-7620, or email grady_miller@ncsu.edu.



Many recreational athletic fields are built in flood plains and flooding through out the Midwest in 2008 has prompted many calls related to getting fields back in shape for play. After giving flood recovery recommendations several sports turf managers shared with me their tips and lessons learned to help you prepare when flooding is eminent.

Flooding results in variable conditions that tests the creativity and experience of an athletic field manager. Try to match your management strategy to fit the specific conditions that exist at each site. Some areas will recover with little input, while others will need removal of silt followed by reseeding. In extreme areas, tilling and regrading may be required. The large volume of water in a flood usually dilutes liquid contaminants such as petroleum products and sewage. Ryegrass can be planted in small test plots or soil samples to give a quickly determine if there may be contaminants in the soil that would prevent grass establishment.

- Remove debris, litter, and check for hazardous materials that may contaminate the soil. The cadre of wood, metal, trees, and house hold items that are swept down the river can all end up on your facility.

- Remove sand and silt as soon as possible so the existing grass has a chance to grow. Sand as deep as 5 feet may accumulate in pockets closer to the river or where water was moving fast. Silt layers can range from ½ to 1 ½ inches thick; drag thin layers or remove thicker layers to sufficiently expose grass blades for recovery. Once the areas dry there are generally two strategies. Silt that crumbles and turns to powder can be dragged into the surface to make a seed bed. Thicker deposits of silt that break into stable 1-inch beds may be bladed into a wind row and scooped from the surface. With an excessive amount of dried soil on the surface, this can actually be a good time to smooth the surface by dragging or laser grading. Silt should be removed from sand-based grass fields and skin areas of baseball/softball fields. Anticipate loosing ½ to 2 inches of the original skin material when removing silt contaminated skin areas. A Topmaker is handy since it can neatly remove variable depths of silt. Solid tine slicers and aerifiers or a variety of spiked drags can be used to dry out and break up the silt layer.

- Aerify with hollow or solid tine equipment to dry the field and regenerate growth of soil microbes. The unforget-

table bad smell on flooded fields is often caused by death of aerobic soil microbes and the abundance of anaerobic soil bacteria. Aerifying dries out the soil and speeds recovery of beneficial soil microbes. Hollow tine aerification with core removal is preferred when possible.

- Be flexible with your regressing strategy. Some areas will recover by simply dragging and mowing. Over the next 2 weeks turf will recover or weeds, especially knotweed and spurge, will dominate. If there is pressure to immediately reopen the facility then seed or sod the fields as soon as the surface can be prepared and irrigation is available. Where time is available summer flooding is best followed by seeding from mid-August through mid-September.

- Crowned fields survive the best because puddles are eliminated as the flood water subsides. Low pockets of shallow water can literally cook the grass in just a day or two under sunny conditions.

- Joe Wagner, Iowa City Parks and Recreation, and Ted Thorn, University of Iowa, offer these tips as they recover from the flood of 2008: Move equipment and anything of value to higher ground. Remove irrigation controllers and electric motors from pump stations. After flooding all electrical items, wire, and conduit must be replaced; only the direct burial wire may remain. Moving water popped out the home plate and pitching rubber and carried them away. They also lost bleachers, trash cans, wind screens, and signs from fences that may have been saved if they knew the extent of damage that was to come. Once the shop was evacuated they recommend opening the doors so that water may flow through the building and reduce the chance of removing it from the foundation.

In my 52 years I've experienced two 500-year floods; the Missouri flood of 1993 and now the Iowa flood of 2008. With the large number of athletic fields located in flood plains it seems to be just a matter of time before you will be making your own flood recovery plan. Thanks to Brian Wood, Commercial Turf from Missouri donated the use of Seed-A-Vator for flood victim members of the Iowa Chapter of STMA. I can't think of a better reason to be a member of STMA. ■