

# 'Wet weather'

## REPAIR STRATEGY

by STEVE & SUZ TRUSTY

**T**he athletic turf manager's job is to provide a safe, playable surface for the athletes. All other concerns—including field aesthetics—are secondary.

Generally, these professionals find a way to do it all, even with limited budgets and limited staff...and lots of rain.

### Field composition, drainage

Preparations for excess water—and then your reactions to it—vary, according to soil profile and underlying drainage conditions for each field.

Many premium fields have a sand content of 80 percent or higher, coupled with sophisticated underground drainage systems to channel excess water from the playing surface.

Most extensively used fields are found in school systems and parks and recreation facilities. Many were built where space was available, and thus feature native soils, which may not be ideal for rainy weather. Native soils, especially those with substantial proportions of heavy clay, absorb water more slowly and retain it longer than fields with a higher sand content. Underlying conditions may include hard clay, rock or even layers of packed debris (such as old landfill).

The athletic field manager must then:

- 1) Assess the basic composition of the field and drainage.
- 2) Analyze average infiltration



After normal rainfall, a well-maintained and properly designed infield should be ready for play within a reasonable amount of time.

rate during rainfall and irrigation.

3) Develop a wet weather strategy.

Ideally, the infiltration rate will be slightly better than average rainfall patterns, and will let moisture be absorbed rather than run off or stand in puddles.

After normal rainfall, the surface area should be capable of sustaining play within a reasonable period.

Groundwater table levels affect percolation rates. If a river or lake is near the field, water table levels may fluctuate with the depth of that body of water, and the percolation rate may fluctuate accordingly.

On football fields and the outfield sections of baseball and softball fields, above-ground drainage can be improved by slightly crowning the field and

channeling natural drainage with a minimal grade.

For the skinned areas of baseball and softball fields, a water-absorbent material such as calcined clay can be mixed into the sand-and-clay infield mix to improve water infiltration rates and develop the best consistency for play.

Where funds are limited, an affordable amount of material can be added each year, gradually bringing the surface to the desired quality.

Turf areas with poor infiltration rates also can be improved gradually, after extensive aeration. The cores can be:

- dragged back into the field;
- dragged back in with a topdressing material of sand or a sand-and-soil mixture;
- removed, and a topdress-

ing mix applied.

To avoid layering of different soils, periodic deep aeration will penetrate subsurface layers.

Fields that frequently become too wet for safe play should undergo extensive reconstruction programs, with attention to underlying drainage systems, and rebuilding the field with a better quality soil profile.

### Temporary fixes

Field covers will protect surfaces from too much moisture buildup, from pre-game irrigation, or both. If field covers aren't available, or the effects of a previous rain linger too long, spot applications of calcined clay or other absorbent materials may sufficiently dry skinned surfaces for play to proceed.

For heavier moisture buildup on skinned areas, add calcined clay or a clay and calcined clay mix and work as usual to reach the desired level of consistency. It may be necessary to rework the pitchers' mound and bullpen mounds with more materials, depending on the depth or moisture and the consistency of the existing materials.

On overly wet turf, cut compaction as much as possible, but keep the grass within normal conditions. That may mean switching to walk-behind mowers rather than ride-on units. Cut the turf a little bit

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shorter than normal to allow better surface evaporation, but never remove more than one-third of the turf blade in any one mowing.

If the grass was thick and heavy, it may be best to catch clippings temporarily to allow better air movement for evaporation.

In soggy turf, the oxygen supply to the rootzone can be improved by multiple passes with a slicing aerifier or slit seeder. Depending on the soil profile, after moisture levels drop from field capacity, the area may be topdressed with sand or a sand and calcined clay mixture

#### Time out to shift fields

When field conditions are too wet for safe play, or when play would be damaging to the field, sports turf managers may shift play to other fields.

All practices might be moved off the game field, or practices shifted to specific practice fields until conditions could be improved through maintenance practices, or the fields dried out naturally. Most players, when told about possible restrictions in advance, will understand and cooperate.

If alternate fields aren't available within a facility, arrangements may be made to shift play to neighboring facilities temporarily. Plan ahead with other facility managers for these reciprocal arrangements. Advance planning makes it easier to work through problems when they do occur.

Scheduling adjustments will be in order, so teams, coaches, athletic directors and league personnel must all cooperate. □

## Strategy for severely flooded fields

During the past few years, athletic field managers across the country have seen their fields flooded. In some instances, waters rise rapidly, recede quickly and little damage remains. In many cases, long-term saturation takes place and silt and other debris move in along with the flood waters. Here's how you solve the problem.

**1)** Once the waters recede, hose off the coating of silt and debris.

**2)** For heavy residue accumulation, the exposed silt layer may be allowed to dry. It can then be broken into "chunks" with a spiker, raked into piles and removed by hand, or broken into small enough particles to be removed with a turf vacuum.

**3)** A topdressing application of calcined clay may be necessary to counteract any slick-

ness—which might be a threat to player safety—that remains on the turf surface.

**4)** Use the standard topdressing mix to level out the uneven areas.

**5)** Mowing and aerification strategies on wet fields should be applied to flood-ravaged fields.

**6)** Because considerable leaching may have taken place, and turf is in a weakened condition, the fertilization program may need adjusting.

**7)** When active growth resumes, fertilize with balanced nitrogen and potassium, and whatever nutrients the soil tests indicates are low.

**8)** Build up the strength of the plant first, then gradually get back on the normal fertilization program.

**9)** Supplemental iron applications will improve turf color without stressing turf or forcing

growth roots cannot support.

**10)** Turf will be susceptible to disease. If budgets allow, apply preventive controls. If funds are low, watch for signs of disease activity and be prepared to apply treatments immediately.

**11)** Irrigation adjustments will be necessary, depending on the length of saturation.

**12)** Turf roots will become more shallow during prolonged wet spells. Apply water more frequently at first, gradually promoting deeper root growth with less frequent but deeper irrigations.

**13)** When the field is dry enough, make multiple passes with a core aerifier. Apply pre-germinated seed with both a slit seeder and broadcast spreader. Keep players off the field as long as schedules allow.

—S.T.



Even with limited budgets, it's often possible to purchase covers to protect the infield sections of baseball or softball fields, or at least the mound, batter's box and skinned baseline.