Officials in every sport and at every level are now working to ensure that the health and safety of players is never again taken for granted. Many leagues are changing rules and upgrading equipment in an attempt to make the games safer.

However, ensuring player safety often begins with something much more basic than the rulebook: the playing surface itself. A consistent playing surface lays the foundation for safety, allowing athletes to do what they do best without having to think twice about making a sharp cut or leaving their feet to make a play.

Playing conditions are often compromised during inclement weather. Despite turf managers’ best efforts, rain and snow events can quickly make conditions dangerous and unplayable. The 2013 baseball season has already seen its fair share of rain (and snow) delays. While we normally associate interruptions in play with this type of stormy weather, a lack of precipitation can be equally damaging.

In 2012, drought conditions across large sections of the United States left turf managers struggling to keep their turf alive and playable. Some counties and school districts were forced to shut down their playing fields because of turf damage brought on by prolonged drought conditions. The extremely dry weather made field conditions simply too dangerous for student-athletes.

As we head into the summer months, it’s important to think about how drought can impact playing conditions and ultimately the health and safety of players. Turf managers must take steps to ensure that a lack of rain will not interfere with their most important task: keeping players safe.

DROUGHT’S EFFECT ON TURFGRASS

It’s no secret that water is vital to the growth of healthy turfgrass. Water keeps plants hydrated and plays an important role in photosynthesis. It also serves as the natural delivery mechanism for most other applied inputs on a sports field. A lack of water can cause turf to wilt, go dormant, or die altogether in a short period of time. Drought stress also leaves plants more susceptible to regular summer stresses, such as increased traffic, heat stress and disease pressure from pathogens and insects.

These added obstacles can create a nasty ripple effect for turf managers. Troy Smith, who served as the Turf Manager at the Denver Broncos practice facility for more than a decade, has seen the effects of drought firsthand.

“Without the correct amount of water, the plant will be compromised and cannot complete its life cycle. Drought makes it difficult to predict how much water is needed for the fields and interrupts subsequent maintenance practices, such as aerification and fertilization,” he said.

Without adequate water and these important cultural practices, field conditions can quickly deteriorate and become unfit for play.

“Field hardness is a real concern, especially for turf managers who don’t have the ability to water adequately,” Smith said.

Field harness can make grass surfaces feel more like concrete. This can result in increased rates of injury in both contact and non-contact sports.

Over time, soils can naturally become water repellent, meaning they can no longer properly absorb water. If a soil has become water repellent, when rain finally does come, it will not be able to penetrate the soil surface properly. Most of it will simply run off the surface.

SEEKING SOLUTIONS

“Drought opens your eyes to how important water is to your fields on a consistent basis. Once you go through drought conditions, you are always on the lookout for products that will help you manage your turf more efficiently during dry periods,” said Smith.

Smith turned to soil surfactants to help offset the stress brought on by drought conditions. He explained that soil surfactants help to overcome issues with water repellency, ensuring even distribution of water throughout the soil profile. This helps to cre-
It is important to evenly distribute water through the soil profile to provide adequate hydration for the plants," he said.

When it comes to creating safe playing conditions, uniformity is key. Patchy or uneven turf growth can create a hazard for athletes. By helping to balance air and water in the rootzone, soil surfactants encourage more uniform root growth and more consistency on the surface.

Soil surfactants can also help to reduce the amount of water lost to run-off, which is critical for turf managers who are dealing with water-use restrictions. By cutting back on waste and making more efficient use of applied water, soil surfactants can produce monetary savings and potentially stretch the time between irrigation events.

Because most soil surfactants can be tank mixed with a wide variety of other inputs, there is no added labor cost involved. Turf managers can simply add the soil surfactant to their regular spray program. Smith cited this ease of use another bonus of his surfactant program. "Being on a two-week spray schedule made it very easy to apply surfactant on a regular basis," he said.

GETTING A HEAD START

The key to any successful surfactant program is to start early. Although soil surfactants can help turf recover from existing drought damage, instituting a proven surfactant program before drought conditions develop can provide a number of benefits.

By increasing soil moisture uniformity, soil surfactants help to create a healthier and more consistent growing environment. If the growing environment is managed to its peak potential early in the season, turf will be healthier and better able to defend itself when drought stress kicks in. In addition, water and monetary savings produced early in the season can be banked for the late summer months when the need for frequent irrigation becomes greater.

 Seasons like 2012 remind us that we are often at the whim of unpredictable weather conditions. While a repeat of last year’s historic drought isn’t guaranteed, turf managers should be prepared for another difficult season in 2013. By maximizing water use efficiency, soil surfactants can help turf managers offset the physical and financial strain of a drought year and ensure safer playing conditions for all athletes. The key is to start early.

A 2004 study at Ohio State University showed that a soil surfactant helped to reduce water waste lost to run-off by nearly 20%.