Winter Turf Protection for Athletic Fields

by David Rulli

Winter can be a brutal time of year for cool season turf grasses. Most athletic fields are still in play as fields are in the early stages of winter dormancy. The days are getting progressively shorter and the nights are cooler. While most fields must also support activities in the spring, it is essential that the turf be as healthy as possible going into the winter season. The plan you develop and implement during the fall season will help determine your spring survival.

Successfully protecting fields for the winter season starts with preparation. Fertilization leading up to the winter season is a necessary element. Cool season turf needs sufficient nitrogen for sustained growth as long as temperatures allow and field use requires it. Also remember at the same time, the turf needs to harden-off going into the winter.

Applications of preventive fungicides may be necessary, as snow molds (both pink and gray) are primary winter diseases. These diseases thrive in cool, moist conditions or when air movement is restricted due to tarping or stadium enclosure. Other contributing factors are excess thatch, matted top growth, and extended periods of snow cover and ice build-up.

To reduce disease susceptibility in the winter months, good cultural practices are required. Mowing height should be lowered to maintain the traffic on the field and to reduce the disease susceptibility during off

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As far as winter turf damage goes our most important aspect is to not get caught off guard. In northern Minnesota we can get our first snow anywhere from early October to late December. We want our athletic field turf to be good and healthy going into the winter months. We normally start preparing in the end of August. We start aerating and fertilizing at this time so the turf can recover in plenty of time for winter. We also do broadleaf weed spraying and overseeding in September. This way when early spring soccer and baseball starts, we paint the lines and are ready to go.

One problem we have is when we do not get a good snow cover. With our strong winter winds some of our fields can blow clear of snow in the middle of winter causing freeze out of the turf. We have started planting living snow fences in these areas to catch snow, primarily using evergreens. Our two golf courses use greens covers and circumvent the greens with a snow fence to catch as much snow as possible.

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season (winter months). The type of turfgrass, field-use and off-season traffic on the field determines mowing height. Carbohydrate reserves are an important factor to winter survival. Leaf surface determines carbohydrate production so special attention should be given to the timing of lowering your mowing height as winter grows closer.

Aeration will also help the turf survive reducing compaction and allowing turf to drain excessive moisture. It can happen late in the season during play with a slicing type of aerator so as not to interrupt play or it can be done after the season with a core aerator. To combat any possible winter desiccation after core aeration, dragging of the cores or a top dressing is required.

If budget and manpower allow, tarps are another form of protection from moisture, cold, desiccation and build-up of snow and ice on the turf. However, with the turf covered, it is more vulnerable to disease, especially due to lack of air movement. It's important to monitor the conditions under the tarp throughout the course of the winter as potential problems can arise. Remove excessive snow during the winter on the field, especially if you're in an area where a freeze/thaw cycle is common to reduce ice build-up in particular areas of a field that might have shade problems. On the other hand, periods of above-normal temperatures and excessive winds also need special attention. When temperatures allow water to be penetrated into the soil, irrigate to counteract the lack of soil moisture.

Winter desiccation results from dry, windy conditions for an extended period of the time during the winter months and often does not show up on a field until spring. Your best defense for winter turf protection is to regularly monitor your field throughout the winter and be ready to act when potential problems present themselves on your fields.

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We use Evergreen turf covers on our sand based competition football field. They help extend our growing season later into the fall than normally could be expected.

We time our placing of the winter cover so it will go on just a day or two prior to the ground freezing. (Dec. 21, in 1999) This helps the sod staples freeze into the turf, reducing the chance of the cover blowing off. Always, always, always mark your staples or pins with something so they can easily be found if they come loose. We now use red yard tied to each staple. We always pull the tarp into the wind, but try to get a calm day if possible. Always fold the edges over prior to pinning, thus you are pinning through at least two layers of fabric.

Prior to placing the cover we will double aerify our field with the coring tines working on 2 to 3 inch centers. We will sweep up all cores as we are trying to "mine" out any soil layer from the initial sodding. Secondly we broadcast 300 pounds of bluegrasses on the field as a dormant seeding. This seed will germinate prior to taking the covers off in Mid-March! Next we topdress with 1/4 inch of 100 percent sand topdressing and brush in. Our first year we topdressed too heavily (1/2"). Winter kill was very high and I felt this heavy topdressing was the major factor.

If the irrigation is still operational we will supplement any soil moisture we feel is needed. Next step is to apply a snow mold preventative fungicide. Lastly we cover it with the Evergreen covers. Be prepared for a goose or two to land periodically on your field. The ripples from the wind and the color of the covers seems to make a great image of a small body of water (I would love to know what they are thinking when they hit the surface!). This is our "putting to bed" process at the end of the year.

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