

**Low Maintenance (not no maintenance)  
Managing Your Field in the Off Season  
John C. Sorochan and John N. Rogers III  
Department of Crop and Soil Sciences, M.S.U.**

## **Introduction**

Choosing the best turfgrass cultivar to suit the climate and how that turfgrass develops through management are among the most important components of any athletic field. Perhaps the greatest impact is through management, although drainage, pests and the use to which the field is subject can also have a major impact. Preparing an athletic field during the off season so that it will be ready for the upcoming playing season has introduced many speculations regarding management techniques. In many instances, athletic field managers use the off season as a time to budget costs by lowering the level of maintenance. Conversely, the off season is the busiest time for many athletic field managers; where they use the off season as a time to make major renovations, increasing the level of maintenance.

## **Athletic fields with an off season**

Maintenance for athletic fields with an off season should begin during the previous playing season. Mapping trouble areas to identify such problems as drainage should be cited when conditions are most severe. Applying the five primary cultural practices (mowing, fertility, cultivation, irrigation, and pest management) as a maintenance program will help ensure that the transition of the turfgrass from the off season to the playing season has the greatest potential for success.

**Mowing:** Raising mowing height and decreasing mowing frequencies during the off season can decrease turfgrass density. The transition toward a lower mowing height for the upcoming playing season has the potential to add increased stress to the turfgrass plant if done too quickly. Infrequent mowing during the off season often results in the removal of too much leaf tissue causing increased stress to the turfgrass plant. This increases the potential for competitive weeds to appear, and makes the turfgrass plant more vulnerable to insects and disease damage.

Plant growth regulators (PGRs) can be a great tool for off season management. Plant growth regulators reduce lateral growth and increase horizontal growth leaving a more dense turfgrass stand. Many off season maintenance programs involve raising the mowing heights to save money on mowing frequencies. However, raising the mowing height can decrease turfgrass density. This practice can potentially cause more problems for the manager when the time comes for the upcoming playing season. For instance, in football field situations, when the season begins in late August temperatures still have not decreased to optimum growing conditions for cool season turfgrasses. Trying to lower your mowing height will put added stress on the turfgrass when traffic and temperatures are at their peaks. With plant growth regulators during the off season

you can maintain a lower mowing height with infrequent mowing while keeping a dense turfgrass stand. Timing your plant growth regulator application is also very important. Ideally, you would like your turfgrass to grow out of the plant growth regulator shortly after the season begins when temperatures begin to cool down and mowing frequencies are expected to increase.

**Fertility:** The effects of fertility have a great impact on turfgrass conditions. Not enough fertility leaves the turfgrass plant malnourished causing a less dense turfgrass stand, again increasing the potential for weed competition. Too much fertility promotes lush growth, and trying to raise your mowing height with infrequent mowing this increases the potential for a less dense turfgrass stand, as the taller and wider leaves can result in fewer plants per unit area. With too much fertility the increase in turfgrass succulence weakens the cell walls of the plants making them more vulnerable to insects and fungi when environmental conditions are favorable. Fertility also depends on irrigation practices as the potential for leaching exists when there is excess moisture in the soil profile. Using slow release fertilizers can help provide nutrients over a longer period of time without the worry of fertilizer burn from a heavy application, especially when irrigation is limited.

**Cultivation:** Amending problems, created or noticed during the previous playing season, can be improved with cultivation practices. Core cultivation is an effective tool for reducing compaction, and the off season is a great time for you to alleviate compaction by core cultivating. Typically, a single pass of core cultivating only amends about five percent of the surface area. Areas like the goal mouths of soccer fields and field hockey, between the hash marks on football fields, and the outfielder position areas on a baseball field are high trafficked areas and making five or six passes with a core cultivator is a effective method to reduce compaction during the off season. Overseeding and topdressing, possibly with crumb rubber, are cultivation practices which are also effective. Overseeding fills in any worn areas where competitive weeds may impede. Topdressing helps maintain the crown of the field which is essential for surface drainage. Using crumb rubber in high trafficked areas helps protect the crown of the turfgrass plant (Vanini & Rogers, 1995).

**Pest management:** To ensure the turfgrass has a smooth transition from the off season to the playing season, the components of a integrated pest management (IPM) program provide the security that any potential pest problem is being managed in the most cost effective manner. For instance, broadleaf weeds and crabgrass are common pest problems in cool season athletic fields. Wear on the turfgrass during the playing season provides a favorable window for competitive weeds like, crabgrass and dandelions to invade. IPM is a management tool that can be used by the field manager to help control weed invasion. IPM, similar to weed control, is also effective at reducing the potential for disease and insect damage.

### Multi-use athletic fields

Many athletic fields that are used for more than one sport do not have a off season. On athletic fields with little or no off season, the actions of the field manager will have an influence on the species that dominate. As with everything these days costs are important, and the most cost effective way of maintaining a multi-use athletic field is to promote the turfgrass plant by utilizing the five primary cultural practices into your maintenance program.

### Conclusion

The off season is a great time to take advantage of the opportunity to make necessary renovations so that the turfgrass will be ready for the upcoming playing season. In addition, applying the five primary cultural practices (mowing, fertility, irrigation, cultivation, and pest management) and the potential use of PGRs help provide a turfgrass stand ready for playing conditions. The use of PGRs can help reduce labor costs, fuel consumption and wear on machinery. These savings can be directed towards correcting potential renovation projects, like drainage problems, that need to be assessed.

**Reference**

Vanini, J.T. and J.N. Rogers III. 1995. Topdressing with crumb rubber from used tires in turfgrass areas. 65th Annual Turfgrass Conference Proceedings. Vol 24: pp. 235-240.