Cultural Practices

To maintain a field organically, cultural practices are extremely important. Proper cultural practices can reduce the use of pesticides dramatically if utilized correctly.

Mowing

Proper mowing practices can help promote a thicker, denser stand of turf, which helps it stand up to pest infestation. It is best to mow at least twice a week within the recommended range for height depending on the grass species. It is also important to continue mowing until the plants have stopped growing at the end of the season. It is recommended to return clippings, as this does not contribute to thatch, but provides nutrients and is used by microbes. Up to ¼ of nitrogen can be returned to the soil per year just by returning clippings. It is important to never remove more than 1/3 of the leaf blade during a single mowing. The mowing unit should always have sharp blades; otherwise, this will cause damage to the turf leaves. It is also good practice to mow in different directions so turf does not lay over in one direction and to prevent tracks from mower tires.

References: The information for Mowing was taken from "Components of an Effective Organic Fertility Program for Cool Season Sports Fields" by Mary Owen – University of Massachusetts, and "Minimizing Pesticides – Innovative Solutions for Intensely Trafficked Fields" By Frank Rossi PhD – Cornell University

Irrigation

Pest infestations can take advantage of soil conditions that are excessively wet or dry. It is important to maintain an effective irrigation program to optimize water use on a field. As water restrictions become more common across the country, turf managers must utilize the most effective strategies to keep their fields alive if these restrictions are imposed on them. Deep, infrequent watering promotes healthier plants for drought situations. This causes the plant to grow longer roots to reach water within the rootzone and allows plants to withstand drought stress better. Shallow, frequent watering results in drought susceptible, shallow rooted plants.

Effluent water may be another option and is becoming more popular. Effluent water is partially treated wastewater from community sewage or industry. It is cleansed of major pollutants, but may still contain salts, heavy metals, and bacteria. Turf areas provide some of the best filtration systems for polluted water because the organic layer filters out the pollutants allowing them to degrade naturally. One of the downfalls associated with effluent water is the high salt content that sports turf managers will have to consider.

References: Information for Irrigation was taken from STMA Field Management Bulletin: Effective Water Use
http://www.stma.org/_Files/_Items/STMA-MR-TAB9-2455/Docs/EffectiveWaterUse.pdf

Aeration

Aeration is a necessary cultural practice that disturbs the soil to relieve compaction and allow air, water and nutrients to penetrate into the soil. Benefits of aeration include increased infiltration,

thatch control, stimulated root growth, disruption of soil layers, and accelerated decomposition of soil organic matter. Aeration contributes to the overall health of the turf stand by promoting deeper roots, allowing oxygen, water and nutrients into the rootzone, and supporting microbial populations. Aeration should be performed at least twice a year in the spring and fall when plants are actively growing to help a field resist pest infestations.

References: Information for Aeration was taken from Turfgrass Management by A.J. Turgeon

Topdressing

Topdressing is an important practice on sports fields because it controls thatch, smoothes the playing surface, and promotes healing of the turfgrass plants. Topdressing can be applied along with aeration to fill in the holes, or over the actively growing surface. Topdressing supports microbe populations that help break down the thatch layer in soil. The most important thing to remember is to match the topdressing particle sizes with the existing soil. Otherwise, layering could occur and problems will be created within the rootzone.

References: The information for Topdressing was taken from "Components of an Effective Organic Fertility Program for Cool Season Sports Fields" by Mary Owen – University of Massachusetts

Overseeding

University research has shown that constant, aggressive overseeding (2 -10 pounds per 1000 square feet) encourages a healthier, denser, more actively growing stand of turf than a field that is not overseeded at all. This practice also significantly reduces encroachment of broadleaf weeds and crabgrass on a well maintained field. The most success was found using higher rates of seed, but on a limited budget, even lower rates are better than nothing at all. This practice keeps grass growing, which is very important on highly used fields, especially in goal mouth areas on soccer, field hockey and lacrosse fields or between the hash marks on a football field.

Perennial ryegrass and tall fescue perform the best with aggressive overseeding. Because of the slow rate of establishment associated with Kentucky bluegrass, it is not always the best choice.

References: The information for Overseeding was taken from "Components of an Effective Organic Fertility Program for Cool Season Sports Fields" by Mary Owen – University of Massachusetts, and "Minimizing Pesticides – Innovative Solutions for Intensely Trafficked Fields" By Frank Rossi PhD – Cornell University