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Maintaining Athletic Fields on a Limited Budget

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The priority when maintaining athletic fields at any level of play is to provide safe, playable fields for athletes. All too often, budgetary limitations get in the way of proper care and maintenance of fields. Although there is no universal budgetary formula, some level of success can be achieved on most athletic fields. Understanding and applying the essential field care practices, as well as utilizing outside sources, athletic directors, coaches, users, and sports turf managers can collaborate to provide a healthy field that meets community expectations.

Have a Plan

Whether maintaining one field or 20, prioritizing fields can help determine where time, supplies, and maintenance should be allocated. Distinguish high priority areas from low priority areas. For example, game and main practice fields require the most time and money to maintain at a high level. Maintenance frequency and material allocation can be reduced on low priority fields and other areas.

Concentrate Maintenance Practices

While a practice like mowing and fertility may occur over the entire field, over-seeding, aeration, and sometimes topdressing, can be applied to areas of greatest need. Applying seed between football hash marks only will reduce seed requirements by 66%. Other high traffic areas include goal boxes on soccer fields and positional areas on baseball and softball outfields. Focusing on the areas of dire need will stretch limited dollars for the most good.

Cultural Practices

There are cultural practices that are necessary and others that can be altered from a little to a lot. Mowing (time, fuel, and repairs) is a must and always part of every annual budget. Beyond this, two of the next best practices are fertility and seeding. Maintaining proper fertility (nutrients and pH) helps to reduce weeds and increases turfgrass tolerance to insects and disease, which can save money in the long term. Maintaining the highest possible mowing height allowed (up to 3.5 to 4 inches) in combination with overseeding and fertility will help to maintain the highest turfgrass density possible for safety, playability, and weed competition. When overseeding, always provide good seed / soil contact to get the highest level of seed germination. Seed and fertilizer are often spread on bare, compacted soil surfaces providing very little benefit for the dollars spent.



Seed and fertilizer on this compacted surface is a waste. Always provide good seed / soil contact when over-seeding by scratching up a seedbed.

Maintaining Athletic Fields on a Limited Budget

- Cool-season grasses (tall fescue, Kentucky bluegrass, perennial ryegrass) are optimally over-seeded and fertilized in the fall of the year. Spring over-seeding and fertility may be an option if spring play occurs. However, late spring fertility can be detrimental to cool-season grasses as it relates to turfgrass diseases. Cool-season grasses, like fescue, are more susceptible to brown patch disease if the fescue is pumped full of nitrogen late spring to early summer. If a budget only allows minimal over-seeding and fertility (one or two applications), fall is the optimum time.
- Warm-season grasses (bermudagrass, zoysiagrass) are re-established and fertilized during the early summer months for rapid growth and recovery. Seeding is the most economical followed by sprigging.

To avoid fertilizer waste, determine the exact square footage of fertilized areas. Accurate fertilizer applications are dependent on purchasing the correct amount of fertilizer for a known square footage. Also, slightly reducing the fertilizer application rate (adjusting from 1 lb N/1000 sq. ft. to $\frac{3}{4}$ lb N/1000 sq. ft.) can make a difference when it comes to budget dollars. Spreading your fertilizer over several applications will be more beneficial than all at once (i.e. – Two applications of 0.50 lb of nitrogen per 1,000 square feet versus one application of 1 lb of nitrogen per 1,000 square feet).

Soil testing is another inexpensive practice to consider as a means to save money. Sports turf managers can determine what the needs are for nutrients as well as what the soil pH is. If soil pH falls outside of a desirable range (pH 6 to 7), applications of fertilizer may not benefit turfgrass plants as nutrients could be locked up in the soil colloid. Soil test results may also indicate sufficient levels of some nutrients like phosphorus and potassium, which eliminates the need to purchase fertilizers containing those nutrients. The savings can be applied to additional nitrogen fertilizers or allocated to other maintenance practices.

Irrigation may or may not be an option. Most low budget programs tend not to have a source of water, especially if it is potable water being purchased. While soil moisture is important during play, it can increase the chances of turfgrass diseases if applied too often. It is best to be on the conservative side of irrigation except where safety is a concern.

Aerification (soil cultivation) is and always will be the most neglected maintenance practice. It provides some of the greatest benefits – reduced compaction, air exchange, water and nutrient infiltration, and opportunities for deeper root development. It is a practice that can be completed using a borrowed piece of equipment. Walk-behind units can be rented daily for a nominal fee and used in those areas with the most need (center of a football field, goal mouths, sidelines, etc.).

Although it is not always feasible depending on budget limitations, consider topdressing. Topdressing is beneficial in that it dilutes the buildup of organic residue and provides turfgrass protection against traffic or inclement weather. Topdressing is typically done following aerification, but can take place at any time. Consider topdressing high priority areas only, such as between the hashes on football fields or in goal areas. Some local farm co-ops may allow the usage of a fertilizer buggy to spread sand if a topdresser is not available.

Equipment such as mowers and fertilizer spreaders are necessary to complete essential cultural practices. If a program has the ability to purchase equipment, always consider the long term versus short term costs of equipment. For example, diesel mowers can save a lot of money on fuel over time.

Maintaining Athletic Fields on a Limited Budget

Control Usage

Over-use is a problem where athletic grounds are very limited. Any opportunity to restrict activities like physical education and band practice will greatly reduce wear and stretch maintenance dollars. Flexibility to change up a sporting event from a home to an away game due to wet playing conditions can save a field from destruction. In addition, shifting a field 20 to 30 feet or rotating a field can spread the concentration of traffic over more area, therefore allowing previously worn areas to recover. Control usage the best you can.



Maintenance should start earlier than this. Preventative maintenance is usually more economical than recovery maintenance.

Consider Outside Relationships

Most communities will have a sports-plex or golf course nearby. Relationships between these facilities and a local school district can be as simple as introducing one-self and asking a question. If a school district has no means to purchase an aerator, don't be afraid to contact a local golf course to potentially borrow their aerator. Perhaps several nearby school districts can purchase a piece of equipment to share. Many lawn care businesses will have specialized equipment like vertical slicers and aerators. Local farm co-ops are often a great source for seed, fertilizers, and pesticides.

Consider an advertising trade off. Community businesses may have some excellent sources for knowledge and may be willing to donate products, equipment, and services for an advertisement spot on a scoreboard or outfield fence. Many sporting events are announced on local radio stations where broadcasters can promote a business for their contributions to a school or sporting program.

Booster clubs help to off-set some of the cost for team uniforms, equipment, and even field maintenance needs. Saturday morning bake sales, trivia nights, or auctions may raise enough money to buy a piece of equipment or seed and fertilizer for a season.

Conclusion

Athletic field maintenance at the high school level or in any low-budget situation is not hopeless. Devise a plan, provide a list of needs, and start asking around. You may find that safe and playable sports fields are an achievable goal even on a limited budget.