

OF THE 2010 Rutgers Lawn, Landscape, and Sports Turf Field Day,

July 28, 2010, Rutgers Adelfia Research Farm, Freehold, NJ

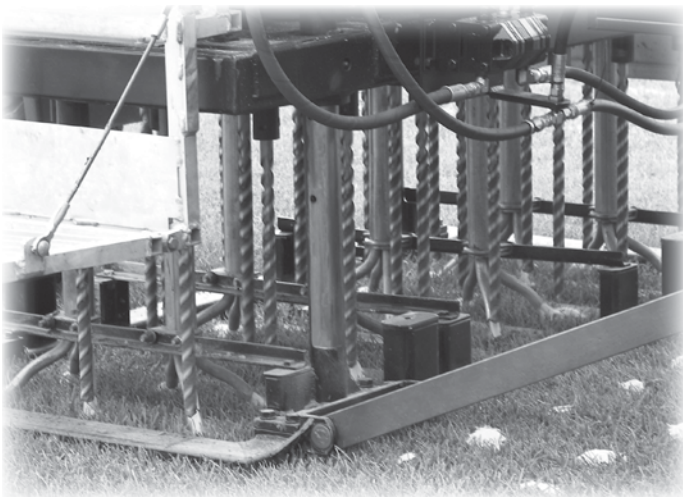
by Brad Park, Rutgers University



Toro Groundsmaster, Storr Tractor



BLEC Slice & Fill, Aer-Core



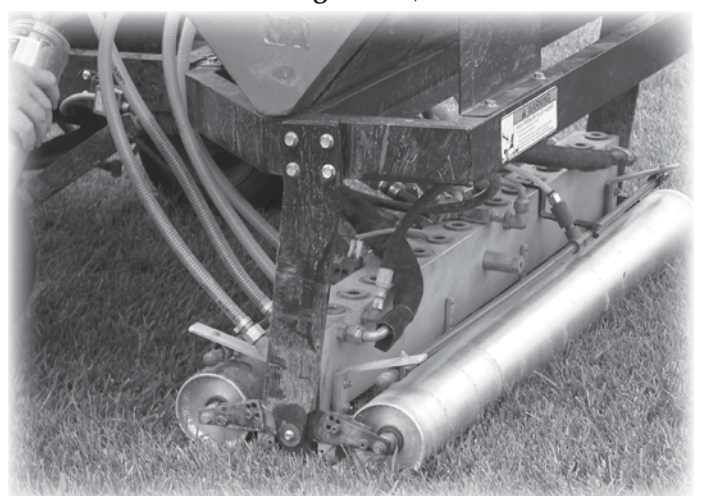
Drill & Fill, Aer-Core



Line Painting Demo, Till Paint



Aerification, Clarkton Sports Turf Services



Dryject Machine, Dryject

BUDGET BASICS

Don Savard, CSFM, CGM

A budget is nothing more than a plan described in financial terms. Every year schools, park departments and other organizations that operate Facility Management Departments create operating budgets for their next fiscal year. Budget conscious sports field and grounds managers who know their costs can provide invaluable information for creating an operating budget.

For simplicity, there are three kinds of budgets you might plan for:

- Capital Budgets are used for planning the purchase of big ticket items such as a new field or new equipment such as trucks or tractors and are usually separate from an Operating Budget. You may not necessarily have one every year.
- Program Budgets are detailed budgets for special projects (such as field renovation).
- Operating Budgets are used for planning the everyday routine tasks like mowing, line painting, and turf management and may include the above mentioned Program Budget could be expressed as a line item of the Operating Budget.

Annual Task Schedule (SAMPLE)												
	J	F	M	A	M	J	J	A	S	O	N	D
Setup and take down baseball												
Setup and take down lacrosse												
Setup and takedown football												
Setup and takedown soccer												
Game prep												
Fertilize												
Herbicide												
Insecticide												
Field repair												
Aeration												
DeepTine aeration												
Overseed												
Irrigation												
Mow												
Litter removal												

We are now in the first quarter of this fiscal year 2010-2011. It is now time to think about your budget for next fiscal year 2011-2012. A good place to begin is to look back at the last fiscal year 2009-2010. Did you have enough resources to do what you wanted? Did you plan adequately for this current fiscal year?

There are a couple of ways to begin when creating a budget. A traditional way is to take last year's budget and inflate it by a percentage, adjust each line item until it balances and be done. This is called an Incremental Budget. Another way is to list all of your projected activities and find the costs and justify the request for funding. This is called a Zero Budget. Both methods have advantages and disadvantages.

Many budget administrators use the Incremental Budget approach because it is simple and easy to understand. The budget remains stable from year to year and change is gradual. Managers can continue to operate their departments as they have before. But if there were problems, such as waste, or underfunding, they will likely remain.

The Zero Base Budget method is a reverse of the Incremental Budget method. Rather than building from the previous year's budget, every projected activity and expense is listed from scratch, and every line item must be justified. This approach requires more time and effort but if done correctly results in a right sized and more accurate budget. Zero-Based Budgeting is useful for grounds and facilities departments to show to the Administration or Management what the costs really are, especially where the output is difficult to identify and all expenditures are looked at as overhead.

Regardless of which budget method you use, there is certain necessary information you must gather to build a budget that works:

- An evaluation of the current maintenance program to make appropriate changes if any.
- Area measurements to help you determine how much product to buy as well as predict the time needed to complete tasks.
- The amount of use, type of use, time of year the use occurs, and under what conditions to plan your work schedule.
- Complete chemical and physical soil testing results for accurate plant nutrition and soil management.
- Identification of the grass types for fertilizer requirements, seed and sod selection and cultural task management.
- Identification of weed, insect and disease pressures for control product selection and timing.
- Set thresholds for when to treat problems or initiate repairs.
- Clear understanding of the owner and users expectations?

Next, conduct an inventory of your resources. This includes the people who will do the work, as well as the equipment, materials, and time to get the work done. You will also need to find out how much money was spent in the past and whether it was adequate. All of this information will be used to create a program that satisfies both needs and wants.

To graphically illustrate your program, create a calendar showing when the activities will occur. This visual aid is helpful for scheduling resources and time around scheduled events. It will help you paint a realistic picture of what tasks your organization can do in-house, or whether you should outsource or eliminate.

Be sure to include any overhead expenses that your operation is charged, such as rent, utilities, or other line items. A spreadsheet program on your computer will help you organize your data. Remember that you will have to present this to the financial people, so keep it simple but complete; and above all, neat and easy to read. Check your figures carefully and submit your budget.

Don Savard is a Certified Sports Field Manager (CSFM) and Certified Grounds Manager (CGM); Director, Athletic Facilities and Grounds, Salesianum School; and President, SFMANJ.

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CALENDAR OF EVENTS

NJ State League of Municipalities Conference

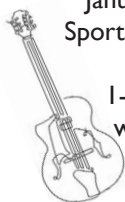
November 16-19, 2010
Atlantic City Convention Center
609.695.3481
www.njslom.org

New Jersey Green Expo

December 7-9, 2010
NJ Turfgrass Assoc.
Trump Taj Mahal, Atlantic City, NJ
973.812.6467
www.njturfgrass.org

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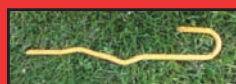
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SFMANJ Field of the Year Contest 2010

ELIGIBILITY:

- Must be a current member of SFMANJ
- Only school and parks/recreation fields are eligible
- Must be a natural grass field/fields

AWARD WILL BE BASED ON:

- Playability and appearance of the playing surfaces
- Description of your maintenance program and what you did to improve your field
- Description of your yearly budget for this field
- (Sports groups may be used in your photos)

AWARDS:

The winner will be honored with a plaque at the New Jersey Turfgrass and Landscape Conference & Expo in December, 2010 and will be featured in an article in SFMANJ's "Update" newsletter.

The winner will also receive a stay at the Trump Taj Mahal, Atlantic City and free registration to education courses and trade show at Expo 2010.

SUBMITTING YOUR ENTRY:

- All entries are to be submitted by mail or e-mail and must be received by September 30, 2010.
- Entries are limited to 10 color photos. Please include the name, location and owner of the facility, along with your name, position, and contact number.

Mail Entries to:

SFMANJ 2010 F.O.Y. Contest
P.O. Box 205, Pennsville, NJ 08070

OR E-mail to:
mail@sfmanj.org

Call for more info:
856-514-3179

website: sfmanj.org / e-mail: mail@sfmanj.org



Lacey Township Soccer Field - SFMANJ's Field of the Year 2009

Photos will not be returned and may be used on SFMANJ website and promotional settings

if using this material as the sand portion of an infield mix and increasing the sand percentage is something that might help to improve the wet weather performance of the infield mix.

Also, I am wondering if using magnesium chloride during warmer weather would help to keep the mix from becoming too dry during a game. Salts were used in the old days on Har-Tru tennis courts before irrigation became common to keep the surface from drying out. Couldn't the same technique be applied to ball fields?

A: Above all, the most critical factor related to skin surfaces for wet climates is field design. Field design must entail provisions for adequate surface drainage (i.e. the skin is graded 0.5 to 1.5% away from the infield). Similarly, no water should be directed onto the infield skin - which occasionally happens when fields are designed as part of multi-purpose fields.

The ASTM Guide (F 2107-07) for Construction and Maintenance of Skinned Areas on Baseball and Softball Fields makes no mention of sand angularity. This is likely because the sources of most commercial mixes, deemed to be of acceptable quality, are mined 'pits' and what is in the pit and what has worked as a mix in the past (which likely has an appropriate quantity of angular

sand) and generally conforms to the ASTM spec is what is sold. In theory, selecting a mix with a high content of angular sand as opposed to a round sand would likely provide a firmer surface, particularly when the surface is wet, assuming there isn't a critical amount of silt and clay in the mix to negate the impact of the sand. Regardless, installing a mix with a specified content of angular sand is most likely going to require custom blending - or long distance shipping if a local quarry does not have a mix to meet your specs.

For your purposes, I suggest identifying a supplier with an infield mix in the range of 80 to 85% sand; remainder silt and clay. I would be hesitant to select a mix that is too coarse (i.e. minimize particles greater than 2.00 mm). Another important factor is selecting a quartz sand - if the sand contains more than 5% calcium carbonate equivalent, the sand has the potential for particle cementation. I would not use the cart path material (or blend it with an existing commercial mix) unless I have seen it on a site where it is currently being used.

Do not overlook the practice of identifying nearby facilities with what have been characterized by sports field managers, coaches, and athletes as 'well performing skins'. Determine the physical properties of the mix, the mix supplier, and discuss the

Continued on page 16

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management strategies with the sports field manager. Also, while I fully recognize the labor intensive nature of infield tarping, this is an effective means to keep water off the infield if rainfall is imminent.

As for the magnesium chloride, I would not view it as a substitute for the ability to supply water to the skin. Coarser, sandier mixes will tend to lose stability when dry; water is critical to provide good footing during dry periods. Also, field design should include an irrigation provision to water the mix (including a quick coupler behind the mound). – BP

Q: The hot, dry weather has caused the turf in front of our municipal building to turn straw brown. Is it dead? Is it dormant? What actions should we take to improve turf conditions?

A: This has been (still is) a very difficult year for many turfs. The next few days or so are forecast to return to 90 °F highs with lows in the mid 70s °F, so stressful weather returns!

As a result, some areas of turf have gone dormant but it is increasingly evident that some areas have suffered severe damage, which will need some form of repair and rejuvenation. If your location has received some rain in recent weeks, the dormant areas should now be showing signs of re-growth. If re-growth is absent or sparse, then repair is probably necessary. I have observed that many severely damaged turf areas occur where the topsoil is very shallow (< 4 inches deep) and the subsoil is severely compacted. Such soil conditions were unable to provide enough water to the turf over sufficiently long enough period of time for the turf to develop physiological dormancy. As result, the grass plants died instead of going dormant. There are also cases where insects and/or diseases also contributed to death.

In any case, plans for repair and rejuvenation efforts need to take place as soon as possible since the prime seeding and sodding period is only a couple weeks away.

From a broad viewpoint, there are two general approaches to consider: 1) Overseed the turf or 2) Renovate the turf. Approach #1 makes more sense if you simply want to re-establish some turf cover with minimal effort and do not have underlying problems needing correction. Approach #2 is more effort but has more reward in terms of better appearance and ultimately a more durable and persistent turf.

Regardless of the approach you choose, you should have the soil tested (if you haven't already) to make sure pH, nutrients, and organic matter content aren't part of the problem in growing the turf. If you need a lab for this, the URL for the Rutgers Soil Testing Lab is: www.njaes.rutgers.edu/soiltestinglab .

Either approach will require some form of aeration/cultivation/tillage to tear up the dead organic debris that was the turf before it died. Tillage will help incorporate any recommended amendments and expose bare ground (soil) that needs to be in contact with seed or sod for repair to be successful.

With approach #1, the objective should be to core-aerate and stir as much soil as possible into the surface organic debris of the former turf. First, apply any recommended amendments, then core-aerate a lot to create holes about 2 inches apart. It is useful to chop up the aeration-cores with a verti-cutter or de-thatcher. Next, spread the seed thoroughly over the area being repaired. Use enough seed that you can actually see the seed fall into the core-aeration holes. Make sure that you use enough seed; most repair failures occur because not enough seed was applied during overseeding. A minimum of 4 pounds per 1000 square feet is recommended; tall fescue overseeding should probably apply 8 to 10 pounds per 1000 square feet. Rake the seed thoroughly into the soil after overseeding.

As for the selection of species, there are a number of choices for turfgrasses in our climate. Seed blends of perennial ryegrass typically work best for overseeding. Although perennial ryegrass establishes easily from seed, you will need to use more advanced varieties to result in more stress tolerant turf. Overseeding mixtures containing some Kentucky bluegrass and/or tall fescue can also be used but the immediate effects will most likely be from the perennial ryegrass in the mixture. Use seed mixture with low percentages (or none) of perennial ryegrass if your goal is to have these other species ultimately dominate in the turf. Most people think Kentucky bluegrass is the most attractive grass; however, this species is best to re-establish from sod (too slow from seed). Tall fescue is considered more stress tolerant but it is not quite as attractive as Kentucky bluegrass. Tall fescue can be established from seed or sod but it is not as easy to establish from seed as is perennial ryegrass. We do not recommend the varieties of tall fescue named 'Kentucky 31' or 'Fawn' for turf. These varieties are more useful as for pasture/forage and do not form a dense attractive turf. Turf managers and home owners will ultimately be frustrated with 'Kentucky 31' or 'Fawn' because of the more frequent mowing requirement. Moreover, many people will be tempted to apply a lot more fertilizer to these varieties to improve density and color of the turf. Fine fescues are another choice especially if you are ultimately interested in lower maintenance turfs. Unfortunately, high quality varieties of fine fescue seed is hard to find and sod is even more difficult to find.

Regardless of the species of grass you choice, you probably need to go to a professional wholesale/retail supplier/landscaper for high quality seed. Typically, big box stores provide seed that low priced and low to moderate quality although you can find some better quality seed if you look for it. Also, you can purchase some moderate to high quality varieties of seed at www.seedsuperstore.com

For approach #2 - if you believe the topsoil is very shallow (< 4 inches) and the subsoil is compacted, this would be a good time

to try and correct/improve that problem. First, apply any soil amendments recommended by the lab (fertilizer and/or compost are likely recommendations) and then till those into the soil as deep as feasible. Some landscape contractors have the tillage tools needed for this type of tillage - a heavy duty reverse rototiller is most commonly used. The soil will need a moderate water content (but not wet) for the tillage to go deep into the soil, so some pre-wetting with irrigation may be useful if natural rains aren't enough to moisten and soften the ground.

After amending and tilling, the loosened soil will need to be firmed with light rolling before seeding or sodding. Don't roll if the soil becomes soaked with rain, allow it to dry before. In fact, rain may do a lot of the re-firming for you. Apply a starter fertilizer to the re-firmed soil and rake-in lightly before seeding or sodding. Note that you should use 1/2 rates of fertilizer if you amended the soil with high quality compost or the soil has an inherently high organic matter content.

If you seed, rake lightly again after seeding to work the seed into the soil. If you sod, lightly roll the sod after it is placed to put the sod in good contact with the soil. Applying some type of mulch barrier after seeding is helpful in conserving water and improving seedling emergence and turf development.

Apply water immediately after seeding or sodding and don't let the seed, seedlings, or sod dry out. Light watering one to three times everyday are better at first. Change the frequency of watering to every 2 or 3 days after roots are 2 or more inches deep. Hopefully, irrigation won't be needed any later than mid October.

Plan to reapply 1/4 or 1/2 rates of fertilizer every 2 to 4 weeks to encourage a steady spread and thickening of the grass. Repeat fertilization until the turf development achieves 90 to 100% soil cover. Rapid cover of the soil is important to prevent soil erosion and minimize the invasion of weeds. Fertilization can be cut back dramatically once ground cover approaches 100% and the grass plants have healthy green appearance. Fertilization should not produce an extremely lush, dark green color or force too much growth. Cut back on fertilization rate and/or extend the fertilization frequency if leaf growth is so rapid that the turf requires mowing more than once per week.

As for timing, now is the best time to get started. If you can get the site prep done, you can seed or sod as early as 15 August. Ideally, you don't want to plant much later than 15 September in northern New Jersey and 30 September in southern New Jersey.

Two Rutgers Fact Sheets that provide additional information on this topic include *Renovating Your Lawn* [<http://njaes.rutgers.edu/pubs/publication.asp?pid=FS108>] and *Seeding Your Lawn* [<http://njaes.rutgers.edu/pubs/publication.asp?pid=FS584>]. - JM

*Dr. Jim Murphy (JM) is Extension Specialist in Turfgrass Management, Rutgers University and SFMANJ Advisor.
Brad Park (BP) is Sport Turf Res. & Ed. Coor., Rutgers University; Editor, SFMANJ Update; and a member of the SFMANJ Board of Directors.*

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A Contractor's Perspective on **AERIFICATION**

continued from page 9

materials needs. For example, concrete sand is called concrete sand for a reason: it compacts very tightly.

Aerification can be stressful to turf so some preliminary work is in order. Providing up to an inch of irrigation helps the aerification equipment penetrate the soil. Watering after aerification is just as important since the turf can dry-out very quickly following aerification. Daily inspection of turf and monitoring of wilt is critical the first week. Fertilizing before or after aerifying is a great idea as well since the turf is under stress nutrients will help the turf to heal and grow. Soil samples are always recommended for the most accurate and responsible results. Aerification increased the exchange of oxygen and carbon dioxide; the turf will grow deeper into the soil building stronger roots which, in turn, will provide better playing conditions. After core aerification, some sports turf managers break-up cores by dragging and mowing the thatch debris. This is great idea except in hot conditions. Excessive heat can intensify the bruising of the turf that is left behind to heal. This bruising can extend the time it takes the turf to heal. Spring and fall aerification seem to be the best time to aerify cool season grasses because of the vigorous growth. Summer is the best time to perform aerification on warm season grasses.

Deciding whether to purchase or lease aerification equipment or contract aerification services can be difficult considering the numerous options. Tough conditions such as rock, shallow topsoil and unknown debris below the turf areas are good reasons to use a contractor. Contractors usually have the latest equipment and operation of that equipment on your property can serve as a 'demo' to help you decide about purchasing. Regardless of the choice you make, the turf will be healthier and stronger as a result of this mechanical practice.

Sean Connell is Owner and Primary Project Manager, Georgia Golf Construction and member of the SFMANJ Board of Directors.

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OF THE
2010 SFMANJ SUMMER FIELD DAY
JUNE 22, 2010, LACEY TOWNSHIP, NJ

by Brad Park, Rutgers University

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