

# GET WITH




# THE PLAN

An agronomic plan is the first step toward a more accurate budget and achieving your ultimate vision for turf quality.

by Bruce R. Williams, CGCS

**E**arly on I remember hearing the old adage that “a failure to plan is a plan that will surely fail”. Such is the case with creating an agronomic plan for any golf facility. Without a plan that is written, approved and communicated it is likely that an operation is being run without a roadmap to meet the goals of the business.

Agronomic plans can be simple or complex but should include a number of basic items. All of the items in a plan require resources in terms of manpower, equipment, materials and products. The agronomic plan is the first step to developing an accurate budget to maintain the golf course at the desired quality level.



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**MAINTENANCE STANDARDS.** The genesis of any agronomic plan should be the creation of a written set of maintenance standards. These standards are set by the owners, members, or management. An agronomic plan is the bridge to provide those standards and develop a budget and calendar to accomplish those goals. It should be a collaborative effort between the golf course superintendent and those that he reports to.

All too often I have found that maintenance standards are much higher than the programs and expenses needed to achieve those goals. There's the rub. A lot more resources are required to be 100 percent weed free or disease free than allowing for a tolerance threshold of 90 percent. Each facility has its own personality, and development of agreed upon maintenance standards will go a long way to make the right fit for your type of course and the local competition.

**RESOURCES.** There are a number of resources that go into an agronomic plan. Typically the largest maintenance costs fall under the categories of labor and plant protectants. Fertilizer and topdressing sand are also in the same category, and each course has its own plan on accomplishing the goals set forth in the maintenance standards.

When decisions are made as to the type of mowers, collection of clippings, and frequency of topdressing, they will all have an impact on the labor expense. All of this needs to be calculated into the agronomic plan.

Equipment is another factor in the agronomic plan. What equipment do you have and what equipment do you need to get the job done?

There are a variety of labor saving pieces of equipment out there today that can save your facility money in the long run. Good superintendents can make the case for cost savings by calculating the return on investment for any and all equipment purchases.

Over the recent difficult economic times I have seen an overall reduction in equipment purchases and often see the inventory in the junk pile growing while the operable equipment diminishes. This too will have an impact on what can be included in the agronomic plan and also what practices must be outsourced at a greater cost due to a shortage of equipment.

**MATERIALS AND SUPPLIES.** Few golf courses operate without any expense in the areas of insecticides, fungicides, herbicides, growth regulators, fertilizers, wetting agents and topdressing sand.

So it is not an issue of whether these products are required but more of an issue of what products help you achieve your goals through your agronomic plan. Generally speaking there are a lot of products to choose from. There are also a variety of prices on products. The best advice is to use high quality products and not just the least expensive items. Do the appropriate research to verify that the products control the pests or provide the fertility for the desired period of time. One of the earliest lessons I had in school taught us to calculate the cost of a fungicide per day of control versus cost per 1,000 sq. ft. The same is true for fertilizers and other products used to create healthy turfgrass plants.

As mentioned under equipment it

is necessary to keep a long-term capital improvement program for all golf courses. Sadly I have seen a huge cutback on capital items and as the old TV commercial would say “you can pay me now or pay me later”. Most things on the golf course have a specific time frame for their use. At some point they may require upgrade or replacement. This can extend from equipment all the way to bunkers, greens,

irrigation systems, maintenance buildings. When one knows that you are on the last couple of years before bunker rebuilding or an irrigation system replacement then it will surely affect your expenses.

Expenses go up as items age – just like your car – but certain expenses can be deferred at the end of their useful life and before replacement.

**THE AGRONOMIC PLAN.** Before you know where you are going... you need to know where you are at. Initial testing is the best way to analyze where Point A is as you develop the roadmap to Point B (maintenance standards and goals of the facility). The following list is a good start toward having the adequate information to make sound decisions:

- Water quality
- Soil chemistry
- Soil physical properties
- History and trends of the above tests

What are the desired grasses for your facility? Most courses that were built prior to 1970 had much fewer options for grass types and also particular cultivars of each grass. It is hard to compete with the courses down the street if you are not taking advantage of newer turf varieties that can be cut lower and have quicker green speeds, etc.

Every course should set the proper range for mowing heights of each grass type and also different playing areas and time of the year. For those courses requiring fairway mowing four days per week the cost is higher than those that opt for two days per week. With the use of growth regulators we have seen a reduction in mowing frequency and this also lessens labor costs, fuel consumption and wear & tear on equipment.

By monitoring growth regulation via clipping yield and growing degree days it takes a lot of guesswork out of fertilizer and pesticide applications. Time and materials equate to cost so proper pre-planning is like putting money in the bank.

Greens only comprise about 3 acres on an average 18-hole golf course that would sit on 100-150 acres that are maintained. So 2-3 percent of the acreage is involved in 75 percent of the shots in a round of golf. In theory each hole has the shot into the green and two putts to reach par. With an average par of 4 that means 3 out of 4 shots involve the greens. It is reasonable to assume that the inputs on this small acreage are much greater than any other part of the golf course.

Agronomic plans for greens should include most or all of the following inputs and cultural practices:

- Insecticides
- Fungicides
- Herbicides
- Growth regulators
- Wetting agents
- Fertilizers
- Rolling
- Grooming

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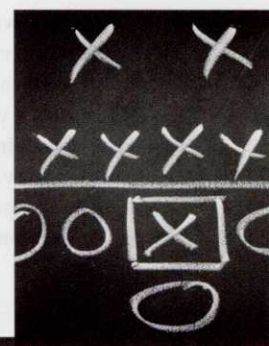
**IRRIGATION.** The largest single input to any golf course is water in terms of not only the number of gallons of water, but also the elements that are in that water. New greens built with materials at a pH of 7 can rapidly change to a higher or lower pH that reflects the pH of the water source. I am not sure if enough additives can ever be applied to overcome irrigation inputs especially in arid parts of the country.

In recent years there are a variety of tools that can be used daily or weekly to evaluate things such as percent of moisture in greens tracked via computer and/

or spreadsheet, evapotranspiration via a weather station, and salinity levels in the soil profile. All of these tools are used to develop a game plan for greens management and should be considered in the agronomic plan development.

**FERTILIZER.** Plant health is based on sufficient elements in the soil available for uptake by the plant to provide optimal growing conditions. The cost of fertilizers will only go up in the future as resources become scarcer. While timing may differ from year to year it is fairly easy to establish a game plan in advance. Know what level of nitrogen, phosphorus, potassium and micronutrients are required. And remember, all fertilizers are not created equal and let the buyer beware.

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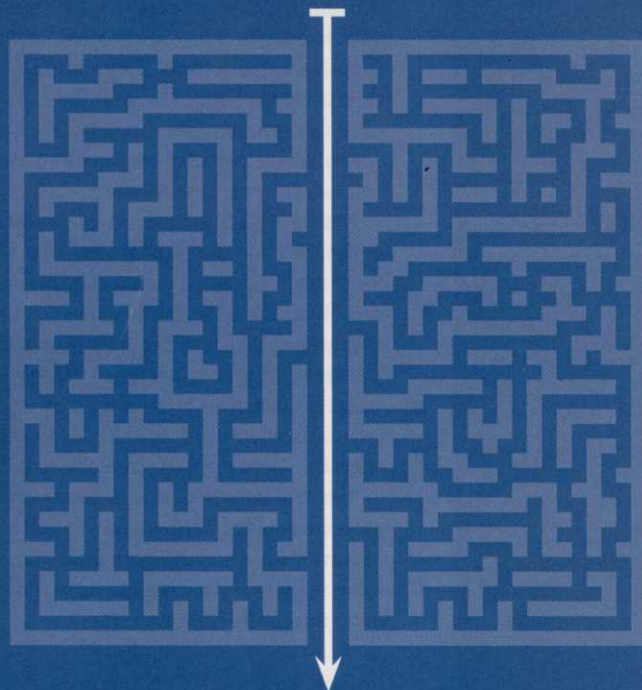
Be sure to evaluate what materials, what rates, what timing and ultimately the results achieved.

Understand the history of the turf performance. Know the soils on your property. It is likely there are pockets of clay, loam and sand all on the same property. Fertility may not be required on the same levels on different soil types. Roughs may not require

the same fertility and quality of fertilizer as golf greens.

Understand the relationship of fertility to pathogen activity. Higher levels of nitrogen enhance certain disease activity while lower levels of nitrogen can also impact the incidence of other diseases. The same is true for other nutrients. It is all about balance and timing.

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A golf course with 100,000 rounds would normally require higher fertility rates to recover from wear stress than a club with 25,000 rounds a year. Tournament stresses would also require greater inputs after an event for recovery. Aerification is a necessity but the healing process can be sped up by proper application and timing of fertilizer.

**COMMUNICATING THE AGRONOMIC PLAN.** Once the agronomic plan is developed then it is time to match the costs associated with it. All of these should align with the desired maintenance standards set forth by the golf facility. If the budget, the maintenance standards and the agronomic plan are not in line then goals will not be achievable with the resources provided.

“With a sound agronomic plan you have a playbook for the year ahead.”

I see golf courses with champagne dreams and beer budgets. That is an operation setting itself up for failure. Instead, be realistic with what it takes to achieve the desired results. In recent years I have seen many courses reducing their budgets but not their expectations. In fact, their expectations have risen.

Progressive superintendents utilize programmatic budgeting and get their clubs to buy into the levels of excellence they desire. Above-average budgets accomplish above-average results. However, every time a budget is scrutinized or fails to keep pace with inflation then programs suffer. Remember, it should be a joint decision as to the sacrifices that will be made when adjustments are made to an agronomic plan.

**VALUE.** Agronomic plans take time to be done properly. Not every superintendent has the skill set to put a proper document together. The best news is that there are a lot of resources and people that can help accomplish this process. Superintendents have many peers that are more than willing to share information. Depending on the time involved I might suggest the assistance of USGA agronomists, extension specialists, consultants, industry experts and trusted commercial representatives.

With a sound agronomic plan you have a playbook for the year ahead. This allows for proper budgeting on a monthly basis for cash flow for the facility. It allows you to take advantage of early order discounts because you know what your proposed usage will be.

Early planning allows for appropriate comparison of products that are safe and effective... and the best value for your club's dollars that are spent. Businesses operate off of business plans. Why wouldn't a golf course operate with a sound agronomic plan? The value is there if you take the time and effort to do things the right way. **GCI**

*Bruce R. Williams, CGCS, is principal for both Bruce Williams Golf Consulting and Executive Golf Search. He is a frequent GCI contributor.*

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