

Natural Grass or Synthetic Turf?

by Mary Helen Sprecher

The good news is that you're getting a new multi-sport field. The bad news is that your desk suddenly looks a little bit like a city skyline, with different stacks of brochures and catalogues advertising everything from seed to sod to synthetic turf, to maintenance products you never knew existed.

Welcome to the decision-making process. It's nerve-wracking, and you probably have plenty of input (not all of it useful) on the part of everyone from front office management to end users, who want to weigh in on what you should do next.

Let's get two things straight as you start your quest toward learning which is the right choice. First, everyone has a favorite type of surface. There are those who love a natural grass field, and there are those who favor synthetic turf (and people who have equally strong emotions against one or the other). Second, there is no one 'right' choice across the board, there is only the choice that is right for the given installation.

While there will be a number of factors to consider (and we'll get to them below), the one thing to remember is that ultimately, you are striving for a safe and stable playing surface for your athletes. Once you have established that as your priority, it is easier to move forward.

Get Help

The first (and smartest) thing to do, according to Dan Wright of Sports Turf Company in Whitesburg, Georgia, is to find a professional partner who can help you weigh the options.

"I would highly recommend the importance of pre-qualifying the sports field contractor," notes Wright. "This way you ensure you get a quality contractor who has the experience, financial capacity, bonding capacity and specialized equipment to provide the owner with a quality field, either natural or synthetic."

If you are working with a consultant such as a licensed design professional, Certified Field Builder or another individual with expertise in sports fields, you will need to define your remaining needs and priorities. Before you sit down with that person, quantify those needs by asking yourself the following questions (because if you don't do it first, you'll have to go through it with your professional partner before you even review the options available). Keep a list of the answers to the following questions. You may even want to send them to your partner prior to meeting with him or her, to provide a better background about your proposed facility.

First, think about the use of your planned facility:

- Will the facility be used year-round, or will it be closed during certain seasons? Will it be used for practice as well as games?

- Will it be used to host any other special activities such as community fairs, school field days, etc.?
- Will it host different types of sports (football, soccer, field hockey, lacrosse, etc.) or just one?
- Will it host field events such as javelin or hammer throw?
- Do you anticipate any events held on the field to be televised?
- Is this the only field in the area, or are there others that can be used in case of problems or rainouts?

Next, you'll want to consider a few questions about the site for the facility:

- Is it in an area where there are utilities, such as water, sewer and electricity?
- What is the soil like? Does it drain well?
- Is it out of the way, or in the public view?
- Are you planning to have the area open to the public 24 hours a day, or will it be closed when not in use?

Your budget is, of course, essential:

- How much, all told, do you want to spend on the finished facility?
- What are your maintenance capabilities? (Nothing is maintenance-free, so be honest and try to quantify how much maintenance funding is included in your budget, and what the capabilities are of your current maintenance crew, including their available time, and their expertise).

Finally, ask yourself:

- What's your local climate like? Do you get a lot of rain, or very little?
- During the playing season, how hot will it be?
- How likely are the athletes in your area to observe any rules regarding footwear, field closures, and permissible activities on the field?

It sounds like a lot of questions, but having the answers to those can help you better define your needs, and help your professional partner translate them into a decision that is right for you.

Maintenance: The common denominator

When making a decision about field type, remember that all fields, natural or synthetic, require maintenance. Synthetic turf does not need to be mowed, but it is not maintenance-free; it requires regular care to keep it performing well, just as a natural grass field does.

No one type of field will give you everything you are looking for, but you will be able to find the type of field that can provide many of the things you want. Define your priorities, and know where you are able to compromise. For those who want some information on the pros and cons

of each field, the following notes, found in the book, *Sports Fields: A Construction and Maintenance Manual*, may be helpful:

Natural grass:

Advantages:

- At the professional level, players and spectators still seem to prefer natural grass fields. A recent survey of the National Football League Players Association (NFLPA) found that a majority of players preferred natural grass.
- Natural turf does not hold heat the way synthetic surfaces do
- While easily damaged by heavy use or poor weather conditions, natural grass fields are inexpensive and easy to repair; if they are vandalized with spray paint or other materials, the damage will repair itself as the grass grows out.
- Since they are not permanently lined, it is easy to convert natural fields from one sport to another by relining them.

Disadvantages:

- In parts of the country with a severe winter, grass goes dormant by the middle of October, and any problems with the field must wait until spring to be repaired. If the field is seeded in the late summer or early fall (depending upon the geographic area), it will require the field to be closed so that the grass can establish itself.
- At a minimum, fields require mowing and marking and if the weather is not conducive, regular irrigation in order to remain usable; occasionally, they also need fertilization, topdressing, weed and pest control and more.
- In heavy rain, fields can flood and become muddy, necessitating cancellation and rescheduling of games.
- It may be necessary for a grass field to 'rest' between heavy uses, in order to allow the grass to recover. If a field is overused, it will be skinned and bare of grass, particularly in areas that see heavy use.

Synthetic turf:

Advantages:

- Synthetic turf does not grow; therefore it does not need mowing, nor does it need to be relined constantly. (It can be permanently marked for multiple sports). Aesthetically, these fields are attractive, with a deep, uniform green color that shows up well on television cameras as well as in still photography.
- In areas where there is frequent and/or heavy rain, a well-built synthetic turf field will drain quickly and be usable sooner than a natural grass field.

- A field made of synthetic turf can handle more play, and not have to be 'rested' between uses.
- During winter months, synthetic turf fields can allow regular snow removal (with manufacturer- approved equipment). The field's ability to heat up in the sun will also help melt snow, allowing it to be playable before a natural turf field.

Disadvantages:

- Unlike its natural counterpart, damage to a synthetic field can be complicated and costly to repair, meaning that not all events should be held there. (For example, UEFA, the European governing body for football, also known as soccer, has noted that javelin and hammer throwing events can damage synthetic turf and must be held elsewhere).
- As mentioned before, heat builds up quickly on synthetic fields, which may create a safety concern for athletes in warm climates.
- In a world where contaminants are the enemy, synthetic turf is sometimes seen as a health concern. A grass field contains natural organisms that break down contaminants found in bird droppings, or in bodily fluids like sweat, blood or vomit. A synthetic field does not have these naturally occurring bacteria, and owners may need to keep the field clean and disinfected.
- In most cases, a synthetic field has a high initial installation cost; however, it is essential to consider that regular mowing, fertilization, etc. will not be necessary.

Just as there are different types of grass, there are different types of synthetic turf, as well as different types of infill (the particles within the turf system itself, usually crumb rubber or a mixture of sand or crumb rubber, although other materials are used as well). Your professional partner can help explain the properties of each type of surface, natural and synthetic, to you, and explain why one or another may work better in different situations.

Note: A fairly new entry into the market is the hybrid field, which is an artificial turf field that has been purposefully sown with natural grass as well, in order to try to maintain as many of the playing qualities and advantages of both fields as possible. If you are interested in this emergent technology, discuss it with your professional partner; like both natural grass and artificial turf, it has its own advantages and disadvantages.

What is shown above is not a complete analysis; other factors apply, and should be taken into consideration as well. And as mentioned previously, it is rare that one field has all the advantages (and no disadvantages); in most cases, there is give-and-take in the decision-making process.

Many organizations have found that rather than going to only one type of field, there is an advantage to having a balance of both natural and artificial facilities available. The artificial turf facilities help avoid rainouts and rescheduling by allowing for games to be played sooner after a

rain, while the natural grass fields can additionally host events like community fairs or fireworks displays, which have the potential to cause expensive damage to a synthetic surface.

“Having constructed both natural grass and synthetic fields at locations throughout the northeast, our experience is that organizations that have a synthetic field nearby will see improvement to their natural grass fields,” says James Catella of The Clark Companies in Delhi, New York. “The ability to have multiple practices and games by various teams on the multipurpose synthetic field allows for facilities personnel to dedicate more time to their maintenance practices of the natural grass fields. They also experience improved conditions because of the rotation of use on the natural grass fields due to the availability of the synthetic field during inclement weather conditions.”

By working with a competent partner, by taking into consideration the pertinent facts about the use, the site, the budget and more, and by weighing the advantages and disadvantages of each surface, you'll wind up with a clearer path through the decision-making process and a better feeling about the decision you eventually make.

Note: The American Sports Builders Association (ASBA) is a non-profit association helping designers, builders, owners, operators and users understand quality sports facility construction. The ASBA sponsors informative meetings and publishes newsletters, books and technical construction guidelines for athletic facilities, including athletic fields. Available at no charge is a listing of all publications offered by the Association, as well as the ASBA's Membership Directory. Info: 866-501-ASBA (2722) or www.sportsbuilders.org