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Web Article

## **Artificial/Synthetic vs. Real Turf**

### **What Should I Use?**

#### **Introduction:**

In our world there are many different types of grasses to choose from and now adding to the mix is artificial turf. In this article I will help you decide which one is best or which type you should use. The turfgrass industry has made huge improvements throughout the years and is becoming more important in our day to day lives. As a Senior in the Sports and Urban Turfgrass Management major I am very interested and knowledgeable about this topic. In this article I will discuss the broad topic of artificial versus real turf, broken down into an easy to read reference. I will provide basic information about both, pro's and con's with each, and most importantly which is the best choice. In this industry there are many options to choose from, knowing which is best for what you plan to use the turf for as well as which works best in the climate zone you will be using this turf. I will also discuss various types of artificial turf and artificial turfs along with a little maintenance for each.

#### **Artificial/Synthetic Turf:**

This turf is just what the name defines, it is a fake grass made up of synthetic fibers made to look like real turf. The most common place to find artificial turf is on sports fields. Many sport complexes are turning to artificial turf where real turf was commonly or the only choice to use. Artificial turf came into the industry in the 1960's, when it was used in the Astrodome. It received the name Astroturf and is still commonly called this today. Apart from sport complexes artificial turf is also beginning to be used in home lawns. The main reason for this is simply maintenance, we will discuss this more in the pro's and con's section.



## Real Turf:

Real turf consists of natural growing grasses, more technically called graminoids. They are known as monocots, usually herbaceous plants with a narrow leaf emerging from the base. Grass is very versatile and has been around since the days of the Dinosaurs. They have adapted too many different climates and areas.



## **Pro's and Con's:**

### **Artificial:**

As mentioned earlier the main reason artificial turf is used is very little maintenance it requires. Artificial turf is mainly used on sports fields because they can resist heavy use, and requires no irrigation or trimming. Domed, covered, and partially covered stadiums may require artificial turf because of the difficulty of getting grass enough sunlight to stay healthy. Artificial turf does have its downside as it has a limited life, periodic cleaning requirements, petroleum use, toxic chemicals from infill and some heightened health and safety concerns.

### **Real:**

Most “real” turf/grass is used in concept of the lawn, but also important role in the agriculture and horticulture settings. It originated in England in the 1600's and by the 1700's was regarded as a “status symbol”. This was due to the extreme care and maintenance it required. This was long before the invention of mowing machines so nicely clipped and cared for lawns where much more difficult than today's maintenance. The advantages of real turf are dwindling as artificial turf makes rise. There still are many advantages as it creates a very appealing lawn and as mentioned earlier is used as a “status symbol”. It is also a food source to many animals and insects. Real turf also comes with many problems aside from the intense maintenance required to keep it looking good. In many areas a lot of water is needed to maintain lush green lawns. If you don't have enough rain fall, you will need to irrigate it yourself in terms of hand watering or installing an irrigation system which can be expensive. Real turf is also susceptible to many diseases and undesirable grasses growing with your desirable grass. Real grass has proven in studies that it is a safer playing surface for athletes but with the advancements of artificial this is becoming false.



## **Types of Artificial Grasses:**

In the 21<sup>st</sup> century, developments of new artificial playing surfaces which use sand and/or rubber infill were developed. These new artificial grass surfaces are generally regarded as being about as safe to play on as a typical natural grass surface, perhaps even safer in cold conditions. With this development the original Astroturf, which caused many injuries is being replaced. As for different types most artificial turf aim for the same goals, which is to appear and play as real turf.

## **Types of Real Grasses:**

There are many different types of grasses along with many cultivars adapted to desired areas. The grasses are divided into two sub groups, Cool-Season which prefer 60-75 degree F air temperature and Warm-Season grasses prefer 80-95 degree F air temperature. Cool-season grasses have a high growth rate in the spring then slow down during the summer but pick up again during the fall. These grasses prove to be the best for our area and weather.

**Bluegrass ( Kentucky\*, Texas, Rough, Annual, Creeping, Supine):** The most commonly used cool-season grass used in the U.S. It has excellent recuperative and reproductive capacity, develops a dense turfgrass stand with excellent color. This grass has the ability to survive extended droughts through dormancy and has a greater tolerance to cold temperatures. Kentucky bluegrass although has a slow seed establishment rate, requires high maintenance, susceptible to diseases such as summer patch and bill bugs. It also has a shallow root system and requires a high amount of nitrogen and water.

**Ryegrass (Perennial, Annual):** This turf you can't grow in this region but is the best looking turf in my opinion. It produces a very high-quality turf, has a rapid germination and establishment rate and can tolerate a very low mowing height. It is commonly enhanced with endophytes which make it undesirable taste to bugs, just don't use on grasses that cattle are feeding on. Perennial doesn't tolerate cold which means it won't perform well in this area, it requires high maintenance and is susceptible to fungal diseases such as gray leaf spot. Annual ryegrass is similar to Perennial with a rapid germination and establishment rate but the disadvantages is the annual life cycle, poor cold and heat tolerance, poor mowing quality and is also found in many inexpensive grass seed mixtures.

**Fescue (Tall, Pasture-type, Turf-type):** This turf is known for its heat, drought and wear tolerance. It is the most drought hardy cool-season species and is fairly well adapted to shaded areas. Fescues have a coarse texture with poor density, with a poor recuperative ability from drought and injury.

## **What Should I Use?**

The main thing you need to consider when deciding if you should use artificial or real turf is what use it will serve. With the information provided earlier you should be able to decide which

is best for you. Artificial turf is growing rapidly in popularity in sports fields where low maintenance is desired (no mowing, or watering), it also is a very appealing and clean looking. The improvements in artificial turf in my opinion have brought it above and beyond real turf in the sports fields. But this is personal preference, which it really comes down to. Another thing to think about is the cost of each. If I was building a new sports complex I would definitely use artificial turf but for my lawn at home the use of real grass is great. In areas of great drought and bad growing conditions for real grass, home owners are also turning to artificial lawns. If you are managing a huge area of grass like a golf course or pasture which will be used for feeding, real grass is the only way to go. With all advancements I wouldn't be surprised to see an artificial turf golf course in the future.



## References:

Most of the information I used was provided by my own knowledge that I have learned throughout my Sports and Urban Turf grass Management major. I found a lot of useful information in my notes from Alan Zuk's Turf Management class.

"FRASS" Fake Grass:

<http://www.frassfakegrass.com/artificial-grass-learn-about-synthetic-turf/artificial-turf-synthetic-grass-lawn>

Turfgrass:

<http://www.turfgrass.com>

The United States National Arboretum

<http://www.usna.usda.gov/Gardens/faqs/turfgrassfaq2.html>