



It's time once again for the ultimate in football competition, the Super Bowl. For turf junkies – it's the ultimate in man versus short, green plants. That lush green, while serving as a beautiful game board for those big men in padded suits, also provides a jumping off point (for us impatient plant people) for the new growing season. While that sculpted turf is rather cool to look at even in a casual sense, if one digs a bit deeper – it represents the success of decades of diligent work. The underlying structure, the seed development, the sod techniques - all have been developed to produce the surface of today, and will continue to develop over the years to come.

The underlying structure that supports the turf is called the "Prescription Athletic Turf" (PAT) system. This patented system for field structure and turf growth was developed at Purdue University in the early 1970's, by Professor William Daniel. It was designed to provide a base that was stable, safe, and secure for athletic performances and events while providing an optimal growing environment for turf grasses. The base area underlying the turf is comprised of drain tiling, vacuum pumps, and sensors. These all work together to provide, monitor, and control moisture as needed by the turf. This base is then securely covered by layers of very heavy plastic on which a growing medium is placed – usually a sandy mix to facilitate excellent drainage. Placed on top of this substructure is what we see, the actual turf, which can be placed as sod or directly sown into the growing media as seed. Events such as the Super Bowl have the turf brought in fully grown and ready to play on shortly after it is installed.

While there are many wonderful grasses that have been developed to fulfill the necessary and even the simply frivolous, functions that are demanded, not just any seed will do for large events like this one. For Super Bowl turf, the choice for the past four years has been *Cynodon*, a bermudagrass called Princess 77. This grass has been developed specifically for heavy athletic use in southern climates. Selections for desired characteristics began in 1980 at the Pennington Seed Company. Through the years, this particular seed development focused on a grass that could withstand heat, drought, and heavy traffic. In addition, it needed to have high resistance to diseases,

exhibit strong root structure, have finely textured blades at a low height, and maintain good coloring late into the season. Final seed performance trials in 1997 proved this one a winner.

The Princess 77 seed is grown from two different and self-infertile grasses that cross beautifully with one another. For this Super Bowl, 40 pounds of that seed was sown on five acres of Georgia land in 2005. Two years and over 2,000 hours of constant and unfailing weed removal, reseeding weak growth spots, disease treatment, watering, aerating, mowing and pure devotion have produced 128,000 square feet of televisable turf. With a root depth of two inches and a blade height of about 5/8", the turf was cut deeper into the soil than what we generally see in the northern climates. This serves two purposes. First, in order to maintain root structure integrity, enough soil has to be taken up to accommodate the depth of growth. Allowing for complete root removal ensures quick recovery from the cutting process, resulting in turf that is ready to go in very short order. And second, increased soil depth provides greater stability for the playing surface – more mass means less movement in the entire system. Cut directly from the field (with much fanfare) into wide strips that weighed in around 1000 pounds, the sod was hauled, twelve trucks at a time, to Florida for installation. In all, about 40 loads of sod made the eight hour trek. The estimation was for between 30 and 40 people to do the basic field installation in Miami.

Okay turf junkies – I know the question. Can you have the same turf here? No. It is a day length sensitive, warm season grass that will die back quickly when exposed slightly to our normal fall temps. It loves early season high temperatures, both soil and air, than what we have even in a very unusual year. This is really not a grass that has cold-tested well for our climate – with only pretty good success as far north as central Indiana. So, enjoy the game, look at the turf and drool away.