

NATURAL GRASS PROMOTES PLAYER HEALTH

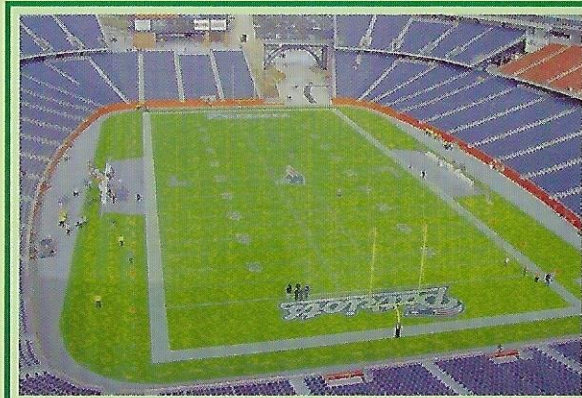
In addition to the excellent cushioning effect, turfgrass on the sports field is a living organism that absorbs carbon dioxide and releases oxygen, thus maintaining a fresher environment in the field. Grass contains 75-80% water by weight. It transpires water into the air, keeping the field at a moisture level that helps maintain players ability to perform. Grass leaves are moist and constantly absorb particulates from the air and make the air on the field cleaner. Some players report that the smell of the grass helps them feel fresh and energized. **Temperatures are also lower on natural grass surfaces with differences of 20°F reported on hot days.** Artificial turfs do not have these functions and special effects. Players experience more heat, less cooling and more physical stress on artificial surfaces.



BENEFITS OF USING SOD

1. Immediately visible and functional results from a mature turfgrass sod.
2. Better physical environment for players where temperature, humidity and cushioning are superior to artificial surfaces.
3. Near-immediate use of the field surfaces from the installation of sod, as opposed to lengthy periods of time where a seeded area would be unavailable for use.

4. Reduced establishment requirements such as water, herbicides, fungicides and insecticides and the associated increased labor costs that would be required to establish turf by any means other than through the use of sod
5. One-time establishment of the playing surface is accomplished with sod. The coverage and quality is known. You eliminate the time-consuming, frustrating and costly requirements of re-grading, re-seeding or patching of areas that are washed out or otherwise deemed unacceptable.



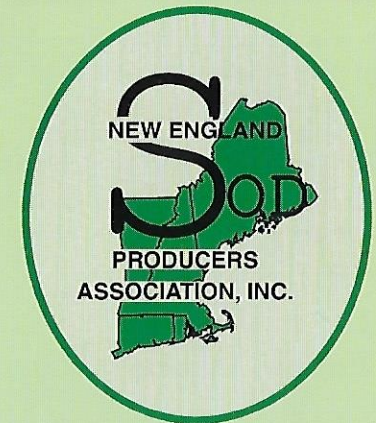
In a recent NFLPA 2002 survey:

1. 88.8% of active NFL players prefer playing on natural grass fields.
2. 95.7% of NFL players also believe that artificial surfaces are more likely to contribute to injuries.

Source: National Football League Players Association

The New England Sod Producers Association would like to acknowledge Dr. W. Michael Sullivan & Dr. Zhongchun Jiang of the University of Rhode Island for researching and organizing the information for this brochure.

NATURAL GRASS PLAYING SURFACES VS. ARTIFICIAL SURFACES



PO Box 190, Canton, MA 02021

www.nesod.com

ARE NATURAL GRASS PLAYING SURFACES SAFER TO PLAY ON THAN ARTIFICIAL SURFACES?

PLAYERS LIKE NATURAL GRASS.

If you ask athletes, such as football, baseball and soccer players, which surface they would like to play on, natural grass or artificial turf, the answer is a natural one: real grass. NFL teams realize that artificial turf is not the cost-effective solution to grass they thought it was. More and more have returned from artificial turf to natural grass.

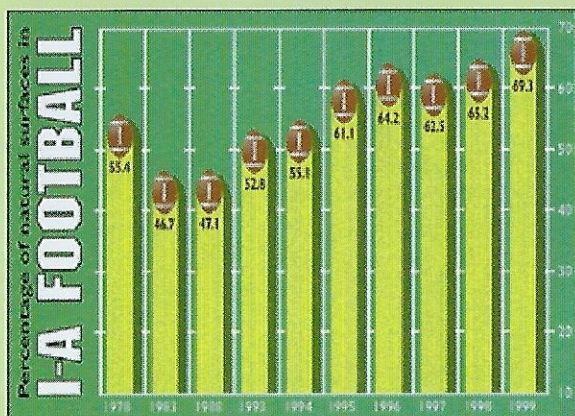


Table 1: In recent years, the Chicago Bears, Kansas City Chiefs and New England Patriots have made the conversion from artificial turf to grass. Two-thirds of the NFL's 32 teams are playing on natural grass. The percentage of natural grass fields used by NCAA College Division 1-A football teams have increased from 47% in 1983 to 69% in 1999. What are the reasons they are switching to grass?

GRASS PROVIDES EXCELLENT CUSHIONING.

Natural grass is softer and causes fewer abrasions. Natural grass turfs provide a healthier, safer recreational surface. Grass reduces the hardness of sports fields, and are resilient and pleasant to walk on. Over time, artificial turf takes a toll on players and injuries increase in number and severity.

Powell and Schootman (1992) identified that anterior cruciate ligament sprains, a type of knee sprains, showed a statistically higher injury rate on AstroTurf than on natural grass (Table 2). They reported in 1993 that ankle sprains in the NFL also occurred at significantly higher rates on AstroTurf surfaces than they did natural grass (Table 3). In a comparison of playing surfaces for high school athletes, Bramwell et al. (1972) found that injury rates and the incidence of more serious injuries in football games played on synthetic surfaces were significantly higher than those played on grass (Table 4). Numerous scientific studies document reduced injuries and other benefits of grass surfaces. Countless articles on the web and in popular magazines describe players' preference for natural grass (see additional information at the end of this brochure).

Because of the excellent cushioning effects of natural grass, many outdoor sports and recreational activities utilize turfgrasses, including baseball, cricket, field hockey, football, golf, lawn bowling, lawn tennis, lacrosse, soccer, softball, and volleyball.

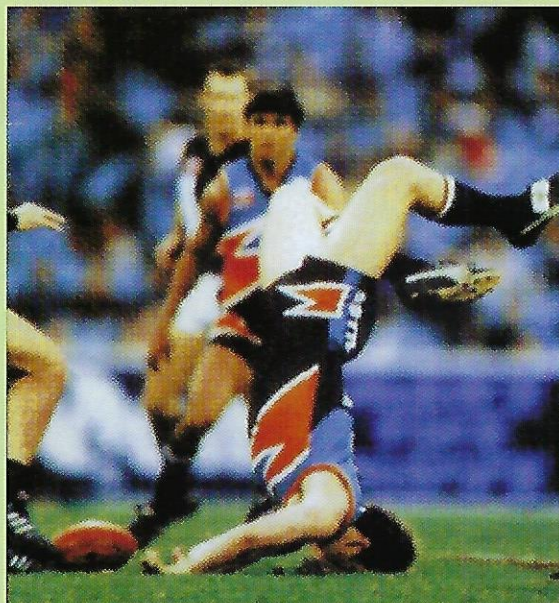


Table 2. Number of injuries for knee sprains, medial collateral ligament (MCL) sprains, and anterior cruciate ligament (ACL) sprains in the NFL, 1980-1989. Powell and Schootman, 1992.

Sprain/Play	AstroTurf	Grass	AstroTurf/ Grass
Knee			
	Punt	50	38
Kick off	77	57	1.33
MCL			
	Punt	25	23
Kick off	35	34	1.02
ACL			
	Punt	14	5
Kick off	22	7	3.10

Table 3. Number of injuries and injury rate per team-game for grass and AstroTurf in the NFL, 1980-1989. Powell and Schootman, 1993.

	Ankle Sprains	Inversion Sprains	Eversion Sprains
# of injuries	835	358	355
AstroTurf	481	196	212
Grass	354	162	143
Injury rates	0.16	0.07	0.07
AstroTurf	0.18	0.08	0.08
Grass	0.14	0.06	0.06

Table 4. High school football injury rate by surface and condition. Bramwell et al., 1972.

Surface Type	Wet field (%)	Dry field (%)
Synthetic	62	93
Grass	50	53