

## ***Sports Turf Requires Patience, Knowledge And Common Sense***

*Presented at the Sports Turf Manager's Association Seminar, Houston TX, February 6, 1988, by Dr. Roy L. Goss, Extension Agronomist, retired from Western Washington Research and Extension Center (WSU), Puyallup, WA.*

Managing sports turf requires patience, knowledge, common sense, the cooperation of the users and a bit of luck thrown in on the side. A sports field that is properly constructed can be maintained to provide a quality surface that is safe for athletes and will support a maximum amount of use hours. Let's consider some of the individual components that make up good quality sports fields and how they can be maintained on a permanent basis.

### **Construction—Sand or Soil**

The choice of construction materials depends almost entirely upon the use of the sports facility. If the field is to be used entirely for baseball, good quality turfgrasses can be maintained on fine textured soils provided they have good internal drainage. If the field is to be used for football and soccer, my choice is a sand root zone medium because these sports are generally played during seasons of minimum growth and above-average rainfall.

When constructing with sand, the first consideration is sand quality, and there is no question that sand particles falling between 1.0 and 0.1 mm perform very satisfactorily. Sand root zones should be no less than 12 inches and, hopefully, up to 16 inches. It is important to place the tile lines at the proper interval and to backfill them with the proper material to keep them from becoming sealed off or plugged and useless.

### **Maintenance**

When the field is constructed properly and is well established before use is initiated, there is no reason that good, safe surfaces cannot be maintained for indefinite periods with proper maintenance. The basic cause of wet surfaces, even on sand-based sports fields, is managing the organic materials on the surface with dethatching machines when there is less than 1/2 inch accumulated material. Cleats from athletes shoes will tend to punch the organic material into the surface, thereby increasing the organic content and the water holding capacity. Upon decomposition of this organic matter, it can seal sand particles or fine textured soils as well, accelerating the surface wetness as the infiltration rate of water decreases.

### **Smoothness and Density**

Turfgrass density aided by frequent sand topdressings to maintain the desired smoothness of the surface will improve footing, reduce surface compaction and produce a safer surface for contact sports. A balanced fertility program with adequate nitrogen levels performed in conjunction with overseeding will maintain the density of the surface.

### **Sod Strength**

Manipulation of fertilization, irrigation, and aeration factors will provide a massive and deep root system to help the sod withstand the forces of cutting, sudden turns, and stops of large athletes. Such a root system can be developed by providing the full spectrum of fertilizer elements on a required basis and by carefully controlling irrigation and excessive nitrogen. Irrigation should be applied to the maximum depth of the root zone no more often than required to maintain the turf in good vigor and avoided whenever possible immediately preceding a contest.



*Patience, knowledge and common sense are a must for successful sports turf. Anaheim Stadium, being reconstructed for the 1988 baseball season, after three weeks of off-road racing.*

### **Balanced Nutritional Programs**

Managing the nutritional program of sports field turfgrasses on sand root zones is a tremendous challenge to the sports turf manager as the manager needs to be concerned with 13 plant food elements. Without conducting soil or tissue tests, it is sometimes very difficult to determine a deficiency of a specific nutrient until the deficiency becomes severe. We have devised complete fertilizer mixtures that supply all of the major plant food elements as well as the micronutrients and even the secondary nutrients with the exception of calcium and magnesium.

These two elements, either agricultural limestone or dolomitic limestone, are applied separately as needed. After a two-year test period on the Seattle Seahawks practice football fields and on numerous football fields in the Pacific Northwest, we feel satisfied this is a significant improvement over all other fertility programs practiced to date on sand-based sports turf.

There is no question that most of the factors involved in managing good sports turf is common sense. If we will simply employ the bit of new knowledge that is gained through research and practical applications, we can significantly improve our sports turf quality and the number of uses it will sustain.