

Frequent aeration good for fields

Chances are you can't aerify your athletic field too much, particularly a field with clay.

By DR. BILL KNOOP/ Technical Editor

Soil compaction will kill the turfgrass on a busy athletic field. Grass plant roots require oxygen and give off carbon dioxide. This exchange of gases must take place for the plant to live.

There are several reasons why a soil surface becomes sealed, but the most common is soil compaction. The degree of compaction is determined by traffic, percentage of clay in the soil and, indirectly, by the amount of moisture in the clay.

When a soil containing any significant amount of clay receives traffic, the clay particles, which are very fine, become pressed together. This is especially true if the field is used when the soil is wet. It's the presence of clay in a soil that can really give us trouble.

Another problem occurs when an athletic field is covered with water for an extended length of time. The wetter the soil, the easier it is to compact it, particularly if the soil contains clay, and it's probably the clay that's causing the water-logged condition in the first place. There should be no traffic on a water-logged field.

There is hope

Does this mean we can't have good athletic fields on clay soils? Not at all. But we must understand soil texture and how to manage a turfgrass growing on particular soils.

That's where core aeration comes in. It relieves compaction, the field's greatest enemy. A core aerifier penetrates the soil and removes a core of soil. The remaining soil has room to expand into the resulting opening. Most soils contain a clay that expands when it is wet and shrinks when it is dry.

The hole left by the core aerifier also allows water to move deeper into the compacted soil. The wetting/drying action of the clay in the soil will slowly open spaces that allow the exchange of the gases necessary for root growth. The more root growth, the more traffic a field can tolerate. Also, the faster the field recovers.

Weekly aeration?

How often should an athletic field be aerified? The answer rests with how much the field is used. The amount of clay in the field is another consideration. Once or twice a month certainly isn't too much.

Heavily used fields can be aerified once a week.

It's a sure bet that when you see a great athletic field, the grounds manager understands and uses core aeration. It's aeration—and not just once or twice a season—that makes a big difference in the playing condition of a sports field. Or, perhaps, the field might be a high-sand content field. A sand-based athletic field doesn't need a crown for lateral drainage. High-sand fields provide excellent internal

to construct football fields is to use native soil and create an 18- to 24-inch crown in the field's center so that water will run off the field.

A good management program using soil aeration can dramatically increase the amount of traffic these fields can sustain.

It's sometimes hard to sell aeration, since the results aren't visible right away. It takes time for an aerifier to produce measurable or visual results. Changes in the soil result-



drainage. Not all sands are the same though. Generally, it's suggested that most of the sand be between 0.25-0.50 mm.

The real world

In the real world, athletic fields usually don't have perfect drainage. They can only support a limited amount of traffic without turf loss. That's because the more traditional way

ing from aerifications can't be seen.

Actually, it would be hard to aerify an athletic field too much. Once a month? Once a week? It's hard to say. However, a well-used core aerifier is just as necessary for turf athletic field maintenance as a mower or a spreader. □