

## "RUTGERS CORNER"

### "Aerification and Repair of Athletic Fields"

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Regular aerification of the turf and soil is necessary on athletic fields subjected to intense traffic, especially for soils that are highly susceptible to severe compaction. Effective aerification requires the use of equipment capable of extracting ½ to 1 inch diameter soil cores to a depth of at least 2 to 3 inches. Frequency of aerification is determined by the intensity of field use and severity of compaction. High-priority fields that receive intensive use will most likely benefit from two to four aerification treatments per season. The fall and spring seasons are the best timing for this procedure. Removing the cores or working the cores back into the turf minimizes the objections to the soil cores brought to the turf surface. Soil cores can be broken up and re-incorporation into the turf through verticutting or drag-matting the cores. Soil cores dried to the proper moisture content will be easier to break-up and work back into the turf.

Deep Subsurface Aerification. Many old athletic fields that were established on soils that are highly susceptible to compaction will benefit from deep subsurface areification, which will create ½- to 1-inch diameter holes to a soil depth of 6 to 16 inches. This aggressive form of aerification can alleviate deep compaction of the soil, thereby improving water drainage, as well as infiltration and turf performance. The equipment needed is expensive to purchase, however, it can be readily contracted from local vendors. Cost for contracting will vary; but it is commonly priced for pennies per square foot of field area. Treatment with deep aerification equipment has sufficiently improved many older sports turfs and, as a result, helped avoid the high costs of reconstruction. It is important to note that deep aerification will not solve compaction problems associated with improper construction practices (i.e., severely compacted subgrades that limit drainage of water).

Repair. Many factors can contribute to a weakening or loss of turf. But intensive use is often the primary factor associated with severe loss of turf, particularly on finer-textured soils with slow drainage. A good turf can be restored on worn-out fields through renovation procedures, except for the cases that requiring reconstruction

(initial construction was incorrect). Renovation may involve eliminating weed infestations, applying lime and fertilizer, aerifying, overseeding/silt-seeding with a mixture of appropriate turfgrasses, verti-grooving, and dragging/brushing to mix the seed with the soil. Because of rapid establishment and excellent wear tolerance, the improved turf-type perennial ryegrasses or turf-type tall fescues should be considered for overseeding or reseeding mixtures. Refer to Rutgers Cooperative Extension publications FS108, "Renovation of Turf," and FS989 and FS990, "Perennial Ryegrass and Tall Fescue Varieties for New Jersey," respectively, for more information. Renovation is an effective means of introducing seed into an existing turf without destroying the existing grasses, grade, or contour. It will not, however, solve drainage problems, which require partial or complete reconstruction. Late summer through early fall is the best time for repairs. Where the field is actively used for football, the procedure can be successfully per-formed in late fall or early winter; success for this timing is dependent on soil and weather conditions. Early spring would be the next best time for renovating football fields. Where use of the field cannot be restricted to permit adequate establishment of a new seeding, sod should be considered for the establishment of a turf.

Please refer to Rutgers Cooperative Extension publications FS105, FS684, and FS738 for more detailed information.

These can downloaded for free at <http://www.rce.rutgers.edu/pubs/category.asp?cat=5> ▲

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