# Aerification Tine Effects on Bermudagrass Athletic Fields. (C05-rainey105043-Poster)

**Authors:**

- W.G.Rainey, III* - *Auburn*
- E.A.Guertal - *Auburn University*

## Abstract:

There is little research examining the effect of aerification tine type (hollow or solid) and length on athletic fields. The objective of this research was to evaluate five combinations of aerification equipment and tines, examining their effect on soil hardness, compaction, and turf quality. Treatments were: 1) deep hollow tine (20cm length), 2) deep solid tine (20cm), 3) hollow tine (10cm), 4) solid tine (10cm), 5) rolling-hollow tine (6.5cm), and, 6) nonaerified control. Four replications of each treatment were applied in May, June, July, and Aug 2001 and 2002 to loamy sand 'Tifway' hybrid bermudagrass football fields at two locations. Collected data included soil penetrometer, Clegg hammer, shoot density, dry root weight, thatch depth and gravimetric soil moisture. Use of deep hollow tines significantly reduced soil resistance over a 0 to 10 cm depth, when compared to nonaerified plots or rolling hollow-tine treatments. There was no difference in soil resistance in plots that were nonaerified or had been aerified with the rolling hollow tine equipment. Any treatment that removed a soil core had a lower Clegg reading than those aerified with solid tines.

**Corresponding Author Information:**

Garlon Rainey
Auburn University
214 Funchess Hall
Auburn University, AL 36830

phone: 334-844-3999
fax: 334-844-3945
e-mail: rainewg@auburn.edu

## Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 10:00 am-12:00 pm
Poster Board Number: 1039

## Keywords:

compaction, aerification, athletic fields, bermudagrass