

# The Effects of Liquid Aerator on Oklahoma Red Clay Soil At Belmar Golf Club, Norman, Oklahoma

The following data is the result of a field test performed in 2005 at **Belmar Golf Club** in Norman, Oklahoma to determine the effect that **liquid soil aerator** has on the heavy red clay found on the golf course.

**Brett Proctor**, Golf Course Superintendent at Belmar had used the Liquid Aerator product as a test on some heavily compacted gumbo clay soil at his previous golf course in 2004 and had seen positive results in turf quality and soil compaction. As the new Superintendent at Belmar, Brett decided to apply the product to his red clay fairways because of the improvements he had seen previously. Prior to the application, a 2" diameter core was taken 4" deep in an area on the # 10 fairway. That core sample was sent to **I.S.T.R.C.**, the International Sports Turf Research Center in Olathe, Kansas. I.S.T.R.C. is an independent and well-respected soil physical properties lab that does work on thousands of golf courses in the world.

Ninety days after the application of Liquid Aerator, another core was taken within 3 feet of the previous sample. That core was also sent to I.S.T.R.C. so the results could be compared to the sample taken prior to application of Liquid Aerator. Following is a summary of those lab results. See the full data report of the tests on the next pages.

Sample	Infiltration Rate	Bulk Density	Total Porosity	Capillary Pores	Non-Capillary Pores
Check	<b>0.02 in/hr</b>	<b>1.64 g/cc</b>	<b>35.01 %</b>	<b>30.08 %</b>	<b>4.93 %</b>
Treated	<b>0.12 in/hr</b>	<b>1.34 g/cc</b>	<b>47.26 %</b>	<b>39.84 %</b>	<b>7.42 %</b>

Note the following results:

**Infiltration Rate increased 600.0 %**

**Bulk density decreased 18.3 %**

**Total Porosity increased 35.0 %**

**Capillary Pore (water pore) space increased 32.4 %**

**Non-Capillary Pore (air pore) space increased 50.1 %**