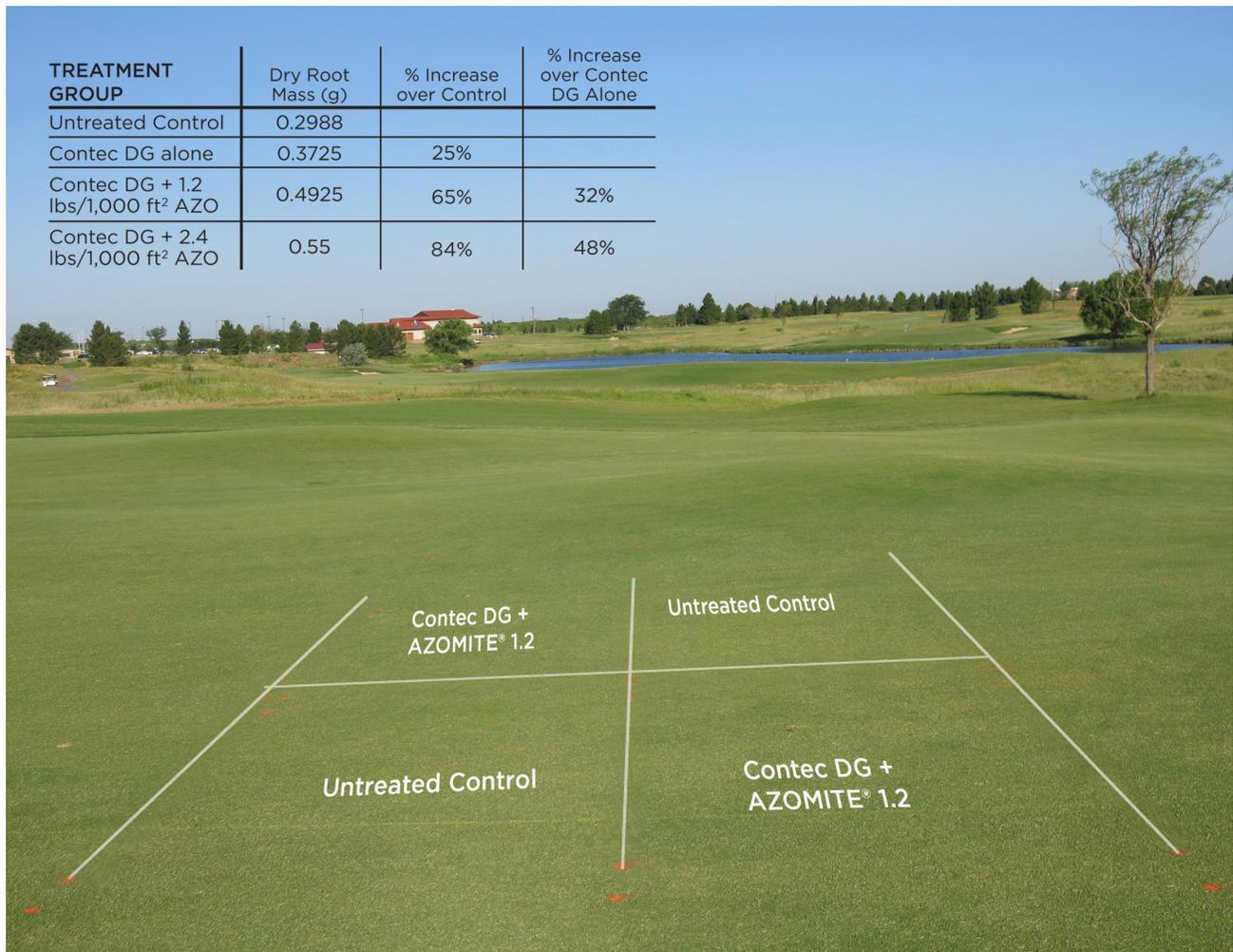


TURF RESEARCH



A replicated Completely Randomized Block Design (CRBD) research study was conducted by Dr. Joey Young, assistant professor of turfgrass science at Texas Tech University on The Rawls Golf Course in Lubbock, TX in 2016 on an established “TifSport” hybrid Bermuda grass fairway. All plots received soluble fertilizer (20-5-25) at 1 lb/1,000 ft² and Polyon™ (CR 20-0-20) at 1 lb/1,000 ft² in early spring. The control plots received no other fertilizer through the growing season. The fertilizer-only plots received Contec DG™ (18-9-18) at 1 lb/1,000 ft² in early June, and the AZOMITE® plots received the same rate of Contec DG plus 1.2 lb/1,000 ft² of AZOMITE or 2.4 lb/1,000 ft² of AZOMITE® at the same time. Soil tests and clipping analysis were conducted several times during the season. Visual turf ratings, light box digital imagery and NDVI instrument readings were used to produce ratio vegetation index (RVI) and spectral reflectance data. At the end of the season, root cores were taken from each plot and washed and dried — at which point longest root measurements and root mass were recorded.

TREATMENT GROUP	Dry Root Mass (g)	% Increase over Control	% Increase over Contec DG Alone
Untreated Control	0.2988		
Contec DG alone	0.3725	25%	
Contec DG + 1.2 lbs/1,000 ft ² AZO	0.4925	65%	32%
Contec DG + 2.4 lbs/1,000 ft ² AZO	0.55	84%	48%



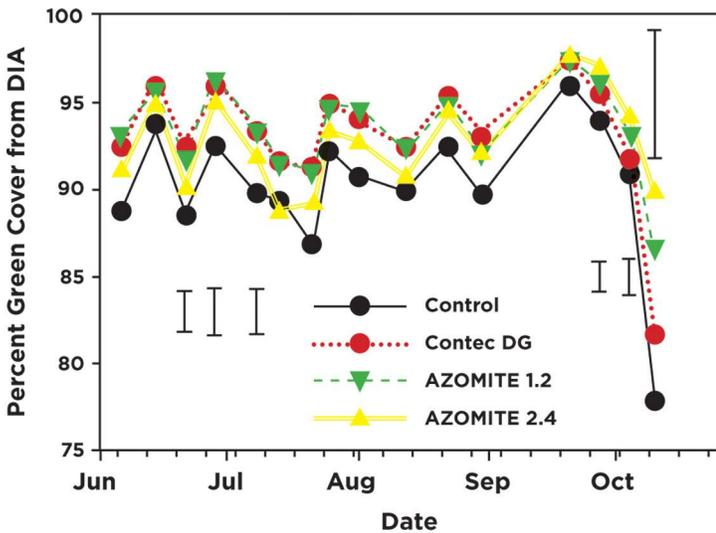
Taken June 2016 when the visual color benefit of the AZOMITE® application was evident. Plots receiving AZOMITE® in addition to fertilizer were a slightly darker green than untreated control treatments.





Benefits at a glance:

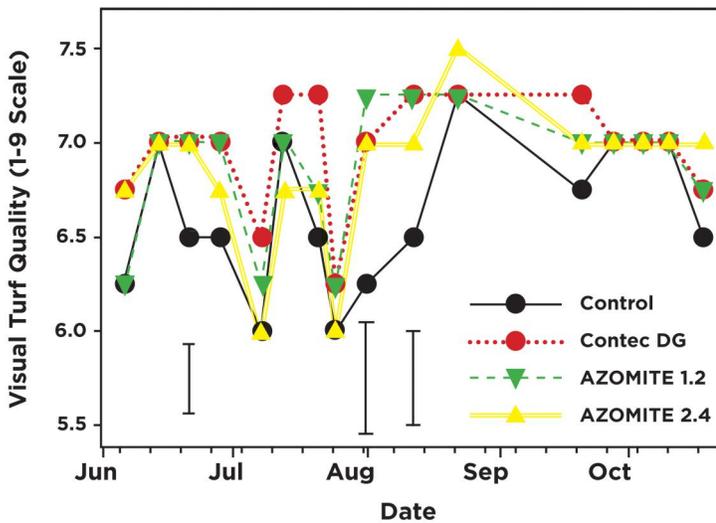
- Normalized Difference Vegetation Index (NDVI) on October 10 for the AZOMITE® plots had significantly higher NDVI than Contec DG alone or the untreated control plots.
- The spectral analysis from RapidScan CS-45 ratio vegetation index (RVI) was statistically different for the lower rate of AZOMITE compared to the untreated control.
- Six of the 11 elements in tissue tests were higher in the high rate of AZOMITE® compared to the fertilizer-only plots
- All 25 elements tested in the soil showed an increase in the AZOMITE® plots (except pH, which stayed the same) in July.
- 12 elements tested in the soil showed an increase in the AZOMITE® plots in November.



Percent green cover from digital image analysis.

The higher green cover ratings at the end of the season can equate to longer play plus improved turf health and vigor later in the season.

Error bars are provided for dates that had significant differences at a P-value ≤ 0.20. Means further apart than the error bars are significantly different at the lowest α possible.



Visual turf quality NTEP Scale Rating of 1-9

9= best; 1 = poorest; 6= minimum acceptability

On several dates, the AZOMITE® treatments showed improved turf quality ratings, which were significantly improved over the control, and also better than the fertilizer-only treatments on the September and final readings.

Error bars are provided for dates that had significant differences at a P-value ≤ 0.20. Means further apart than the error bars are significantly different at the lowest α possible.