

## Annual Bluegrass Fertility Trials – High N (6.5 lbs N/1,000/yr) and Low N (3.25 lbs N/1,000/yr)

Tom Cook, Rob Golembiewski, and Brian McDonald, Oregon State University

Both trials were initiated in 2006 and are ongoing. The primary objective of these trials was to determine whether monthly sulfur applications in combination with biannual calcium applications following coring would impact turf quality, incidence of fusarium patch (*Microdochium nivale*), or anthracnose (*Colletotrichum cerealis*). Three rates of elemental sulfur were applied monthly: 0, 0.125 lbs, and 0.25 lbs per 1,000 sq ft. Three types of calcium products were applied two times a year with coring: lime, Huma Cal (5% sulfur), and Huma Phos (5% sulfur). Also, the Huma Cal and Huma Phos products contained humic acid - 35% and 14%, respectively. Anderson's soluble 28-5-18 (85% Urea/15% Nitrate N) + micros was applied biweekly at 0.125 lbs N/1,000 (Low N Trial) or 0.25 lbs N/1,000 (High N Trial) during the growing season (except where noted below) and monthly during winter. In order to encourage anthracnose, the green was mowed at 0.100 inches during the summer and no fertilizer applications were made from June 17<sup>th</sup> through August 23<sup>rd</sup>. Results: fusarium patch was much worse on the High N plots treated with lime and no sulfur. Sulfur applications of 0.125 lbs S/1,000 sq. ft. per month were enough to reduce the initial fusarium patch significantly in early fall but not prevent the necessity of later fungicide applications. The low N plots had significantly less fusarium patch than the high N plots but nitrogen treatments were not replicated so no statistical comparisons could be made. All plots treated with calcium significantly reduced anthracnose on the High N trial. The Low N trial had much less anthracnose pressure. Plots treated with Huma Phos (calcium sulfate) had statistically worse disease than plots treated with either lime or Huma Cal. Plots that did not receive any calcium were statistically the same as plot treated with lime and Huma Cal. Sulfur did not impact anthracnose severity in either trial. The humic acid did not appear to have any effect.

