

PGR and Rolling Effects On Putting Greens of Three Different Construcion Methods

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Due to the putting greens focus as the most important location on the golf course requiring quality playing conditions, issues regarding construction and maintenance have long been hot issues for discussion and research. In the summer of 1992 the Michigan Turf Foundation funded the construction of putting green research plots that will help answer questions regarding the effects of different management practices on putting greens with different soil types.

The study is being conducted on a 14,000ft² putting green constructed in the summer of 1992 and seeded in spring 1993. There are three root zone mixes: an 80:20 (sand: peat) mixture built to USGA recommendations, an 80:10:10 (sand: soil: peat) mixture built with subsurface drainage tile; and an unamended sandy clay loam textured (58% sand, 20.5% silt, 21.5% clay) "push-up" style green. The soil types are arranged in a completely randomized block design, replicated three times, and have individual irrigation control. A rolling factor was split across each soil type and rolling was applied three times per week. The PGR's used were foliar-absorbed trinexapac-ethyl (Primo) and root-absorbed flurprimidol (Cutless). Each was applied at a rate of 0.05oz. a.i./M at five week intervals during the 1996 and 1997 seasons. Data collected included stimpmeter readings, color and quality ratings, thatch accumulation, and rooting data.

For both years of the project, rolled plots produced consistently higher stimpmeter readings. Consistent for both years was the reaction time between PGR treatments and green speed. Approximately two weeks after each application the stimpmeter readings were effected by PGR treatments with both PGR's producing higher readings than the check plots. A two-way interaction was also seen both years between two and three weeks after application between rolling and PGR. The effects of the PGR's on stimpmeter readings seemed to wear off three weeks after application. The first application of the PGR's for 1997 were made on May 28. Approximately one week after the application was made a three way inter action was produced for stimpmeter readings on 6/3, 6/4 and 6/8. This was not seen in 1996 or the other applications for 1997. At the beginning of the season the native soil plots produced the highest color ratings while the USGA was the worst. Cutless produced lower color ratings than Primo and the check plots throughout both seasons. Thatch weights in native soil plots were significantly lower than in USGA and 80:10:10 plots.