Detecting Golf Green Compaction Using Ground Penetrating Radar. (C05-boniak094620-Oral)

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Abstract:

Soil compaction on a golf green can restrict root growth, slow water infiltration, increase disease invasion and cause in poor turf quality. Early detection of compaction can help a superintendent in managing the green to prevent potential turf problems. In the past, soil compaction has been detected either by soil density or soil resistance. However, both methods are time consuming and can disturb the surface of the green. Ground penetrating radar (GPR) is a non-invasive geophysical tool that has been used to detect subsurface features in soil materials. The objective of this study was to test the use of GPR to detect compacted areas in golf greens. The experiment was conducted on existing golf greens in areas with and without compaction (as measured by penetrometer). In addition, data before and after cultivation was also collected to examine the effects aerification on alleviating compaction. Results indicated that GPR could be used to detect compaction in golf green management.

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