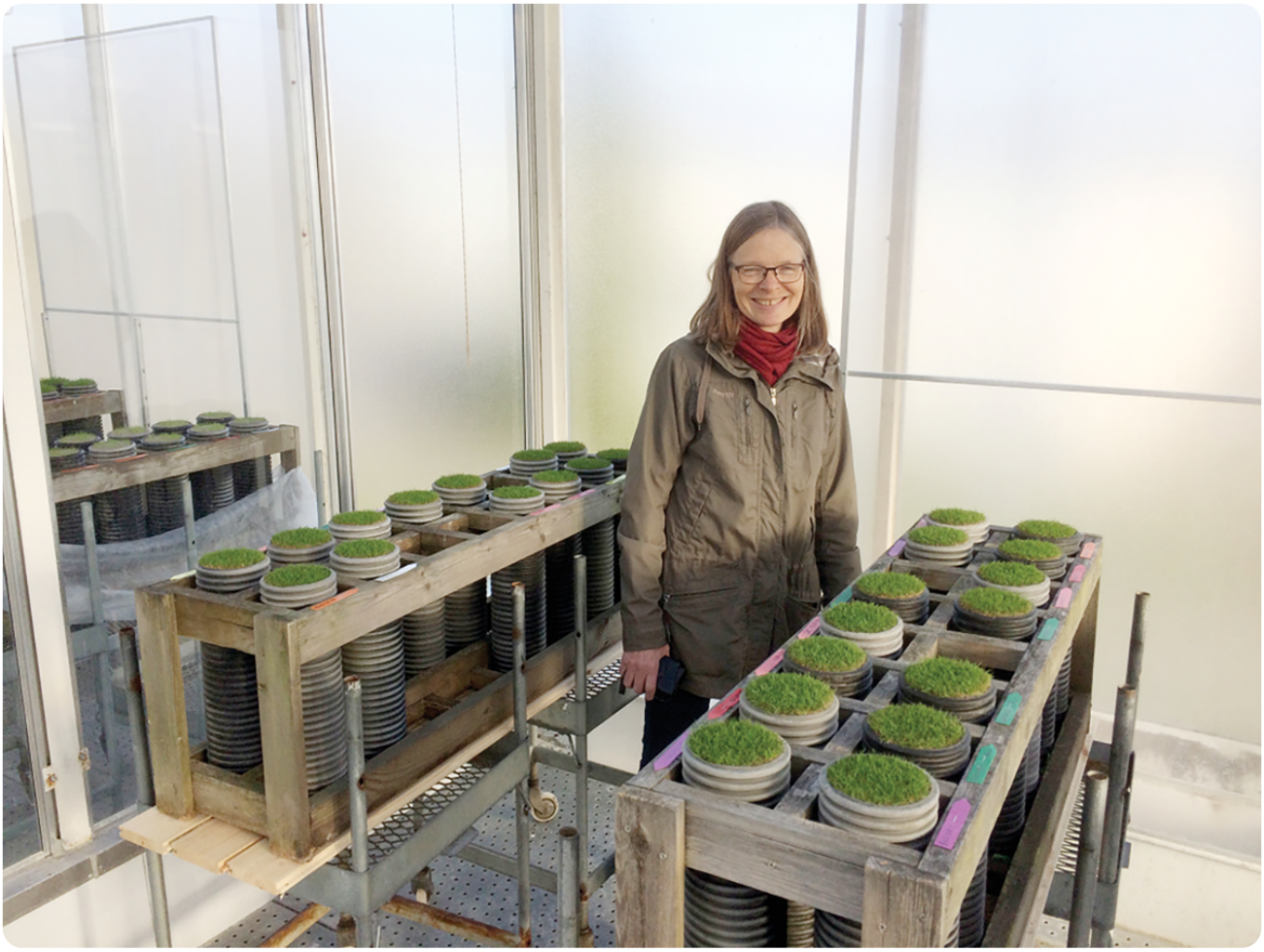
Science Societies

Cold springs don’t warrant extra phosphorus for turfgrass

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Anne Falk Øgaard, first author of a new Agronomy Journal article, studied possible interactions between temperature and increasing P rate on creeping bentgrass grow-in from seed and early spring growth. Photo by Trygve S. Aamlid.

Although world reserves of phosphorus (P) are limited, overfertilization with P often causes eutrophication of freshwater. Turfgrass managers in winter-cold areas commonly apply high P rates in spring to enhance green-up and re-establishment after winter damage.

In a new article in *Agronomy Journal*, Norwegian researchers report on temperature effects on (1) the optimal P rate for creeping bentgrass establishment from seed and (2) the efficacy of root vs. foliar feeding of P for spring growth on established greens low in soil P.

The researchers took intact soil cores to greenhouse compartments shortly after soil thaw but found no impact of temperature in the range 7–17°C on the optimal P rate for either grow-in or green-up. In the grow-in trial, bentgrass coverage and clipping yield increased with increasing P rate up to 6 and 12% of the nitrogen rate, respectively. The concentration of P in clippings was higher at 7 than at 17°C, suggesting that temperature was more limiting to shoot growth than to P uptake. Uptake of P on established greens was higher with granular than with foliar fertilization regardless of temperature, but there was no difference in green-up.

This research provides a basis for economic and environmental savings by avoiding overfertilization with P in spring.

Dig deeper

Øgaard, A.F., & Aamlid, T.S. (2020). Temperature effects on phosphorus requirements for creeping bentgrass establishment and spring growth. *Agronomy*

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