

The Effect of Endophyte on Tall Fescue Cold Tolerance. (C05-hollman095446-Poster)

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Abstract:

Tall fescue (*Festuca arundinacea*) has limited use in climates north of the transition zone due to its reported poor cold tolerance. Increased breeding efforts in the last two decades have greatly increased the number of cultivars available but little has been published on their cold tolerance. Our objectives were to determine the effects of genotype, endophyte, and plant maturity on cold tolerance of tall fescue. Plants were started from seed and grown until the desired age under greenhouse conditions. Growth chambers and glycol baths were used for cold acclimation and freezing tests. Differences in cold tolerance existed among cultivars at an alpha level of 0.05. The crown samples' lethal temperature ranged from -3C to -9C using the glycol bath freezing technique. Cold tolerance was not significantly different between endophyte infected and endophyte free cultivars at any of the temperatures tested. Results of maturity's effect on cold tolerance will be discussed.

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