Endophyte transmission in tall fescue during drought stress. (C06-ju110651-Poster)

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Abstract:

The tall fescue endophyte is transmitted from maternal host to seed. Little information exists regarding influences on endophyte transmission. The objective of this research was to determine endophyte transmission during drought stress. Two exeriments were conducted 1) different endophyte genotypes on same plant genotype and 2) same endophyte genotype on different plant genotypes in the green house. Post-vernalization drought was imposed a)prior to panicle emergence, b)post panicle emergence, and c)no stress. Endophyte frequency and mass were tested by tissue immunoblot and ELISA, respectively. In experiment 1, drought stress reduced endophyte mass in the stem, endophyte frequency of the vegetative tiller, and endophyte frequency in florets at the booting stage. Endophyte genotype affected the stem endophyte mass. In experiment 2, drought stress reduced stem endophyte mass at the booting stage and seed endophyte frequency at seed maturity.Plant genotype affected stem endophyte mass and endophyte frequency of the florets. Endophyte concentration of the reproductive tiller was higher than the vegetative tiller regardless of the treatment.

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