Simulated Foliar Disease Progression Effect on Seed Size and Yield of Inbred Maize Genotypes. (C04-sayers125929-Poster)

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Abstract:

Many foliar diseases of maize (Zea mays L.) found in the US Midwest progress acropetally on the plant. Foliar diseases can significantly reduce grain and salable seed yield of inbred maize lines grown for the production of hybrid maize seed. Our objective was to determine the relationship between the time and amount of defoliation, designed to simulate leaf area loss to disease, with yield for detasseled inbred maize lines. Four defoliation treatments, a detasseled only, and non-detasseled control treatment were imposed on three inbred maize lines near the time of tassel emergence (early) and approximately 20 days later (late). Detasseling removed the tassel and an average of 2.5 uppermost leaves. Grain yield in the detasseled only treatment was 9% less than in the control. In the early and late dates, grain yield of the mildest defoliation treatment was 8.6% and 4.6% less than the detasseled only treatment, respectively. Losses in salable seed yield were similar to grain yield losses in the mildest defoliation treatments. Seed considered too small to sell was greater in the two most severe late date defoliation treatments compared to the same treatments in the early date.

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