

A Comparison of Inoculation Techniques for Inducing Aflatoxin Contamination and *Aspergillus flavus* Kernel Infection on Corn Hybrids in the Field

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Aspergillus flavus inoculation techniques were compared on aflatoxin-resistant and -susceptible corn hybrids for inducing aflatoxin contamination and *A. flavus* kernel infection. A dry carrier technique was comparable to the standard inoculation techniques (the side-needle and a spray technique) in differentiating between the resistant and the susceptible hybrids in the first year of the study. However, only hybrids inoculated with the side-needle technique had statistically different levels of aflatoxin and *A. flavus* kernel infection in the second year of the study. In a second study, a modified pinbar technique with inoculations near the tip or base of the ear was compared with the side-needle technique. When developing ears were inoculated near the base with the modified pinbar, adequate levels of aflatoxin were induced both years to distinguish between the resistant and susceptible corn hybrids. The modified pinbar technique has the potential of being a useful tool in evaluating corn germplasm for aflatoxin resistance.

KEY WORDS: Aflatoxin; *Aspergillus flavus*; corn; inoculation techniques; kernel infection; maize.

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