

***Fusarium moniliforme*, fumonisins and *Aspergillus flavus* in kernels of corn hybrids in Guarico State, Venezuela**

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Abstract

Twenty experimental and commercial hybrids of white and yellow corn were evaluated at El Sombrero, Guárico State, Venezuela, for natural incidence of *Fusarium moniliforme* (FM), fumonisins (FUM) and *Aspergillus flavus* (AF) in the kernels, using a completely randomized block design with three replications. The incidence of FM and AF was estimated in subsamples of 100 kernels placed on a malt-salt-agar medium. Values in the range of 0-15 % were considered low, from 15 to 30% intermediate, and more than 30% high. The contents of FUM were quantified through specific immunoassay (VICAM, Sci. Tech., EE.UU.) and values above 5 ppm were considered high. FM was detected in all samples (60 samples) and significant differences ($P \leq 0,05$) were determined among hybrids. The incidence of FM was intermediate in fifteen hybrids and high in the others. Hybrids D-3042, HFP-2, D-3038, CENIAP-81, D-3065-A and Tocarón-127 were the less colonized. Some hybrids performance was consistent with their evaluations in other trials. FUM content differences among hybrids were not found, whose contamination range was narrow, from 1,0 ppm in Tocarón-127 to 4,0 ppm in Cargill-633. FUM content was positively and significantly correlated to FM incidence. Additionally, low incidence of AF was determined in nineteen hybrids and intermediate in the other ones. These results suggest genotypic differences among hybrids for FM and the existence of adequate environmental conditions for FM and natural fumonisins occurrence. It is considered important to include this evaluation in corn breeding programs in Venezuela.

Key words: *Fusarium moniliforme*, fumonisins, *Aspergillus flavus*, *Zea mays*, hybrids.

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