

Effect of Sorting on Incidence and Occurrence of Fumonisin and *Fusarium verticillioides* on Maize from Nigeria

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Abstract:

Fumonisin mycotoxins are commonly found on maize and pose a health risk to humans and domesticated animals. Visible sorting of grain has been suggested as a simple technique that can be used to reduce exposure to fumonisins. We collected maize samples in 2003 from different farms in the Kaduna state of Nigeria (Northern Guinea Savanna agroecological zone) that had been sorted by farmers as either good quality or poor quality. The amount of fumonisins and the presence of *Fusarium verticillioides* were determined for each sample. All 13 poor quality samples and the 5 good quality samples positive for fumonisins contained *F. verticillioides*. Twelve of 13 poor quality samples contained fumonisins (1.4 to 110 µg/g), as did the five good quality samples that were positive for *F. verticillioides* (0.2 to 3.7 µg of fumonisins per g). Thus, the visible sorting of grain as a technique to reduce the exposure of subsistence farmers to fumonisins could be successful if there were enough good quality grain available to permit the poor quality grain to be used for another purpose or discarded.

Document Type: Research article

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