

**Title: FUNGI AND MYCOTOXINS ASSOCIATED WITH CORN STORED GRAIN IN THE SORRISO AND SINOP REGION – MT.**

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**Abstract:**

Maize is the most important crop grown in Brazil and in the world. Being constituent raw material of a variety of products, is highlighted in the agro-industrial setting due to their economic and nutritional importance. Maize is used both *in natura* in food and feed, as in agroindustrial complex, flour, oils and industrialized rations. Significant loss during the storage period is still registered resulting from the attack of insects, fungi and rodents. During the storage period may occur in the development of fungi grains causing weight loss / discoloration and mycotoxin production, which is a public health problem. This research aimed at the detection of fungi and mycotoxins in corn grain stored in the cities of Sinop and Sorriso / MT. Were collected maize grains in storage units located in Sorriso (9) and Sinop (3) of the crop 2013/2014. Sanity tests or the "Blotter test" were conducted, analysis of water content and water activity to stored grains of corn. For the Blotter test, the grains were distributed over three filter paper sheets moistened with water restriction solution (NaCl) -8MPa to inhibit the germination of grains, in sterile Petri dishes with and without disinfestation using 400 grain for each sample. The plates were incubated at 20 ° ± 2, photoperiod of 12 hours light and 12 hour dark for 7 days. The identification of fungi was carried out with the aid of a stereoscope and optical microscope. The occurrence of fungi related to the grains was: mean (%) with and without disinfection, *Fusarium* sp. (89 and 30), *Penicillium* sp. (70 and 0.5), *Cladosporium* sp. (61 and 0.5), *Aspergillus* sp. (50 and 1.7), *Rhizopus* sp. (0.1 and 16) and *Nigrospora* sp. (0 to 0.5), respectively. Fumonisin was detected in 100% of the samples with varying concentration of between 2.829 and 23.630 mg / kg. Aflatoxin was detected in 60% of samples ranging in concentration from 1.31 to 3.40 g / kg. Zearalenone has been detected in any sample analyzed. We conclude that the fungus *Fusarium* sp., with high incidence in this study, produced fumonisin and is present in samples with concentrations outside the tolerated limit, RDC 07/2014, suggesting that the consumption of this product may cause health problems. Studies should be developed for the control of *Fusarium* sp and fumonisin production prevention.

**Keywords:**, Fungi, mycotoxins, storage, *Zea mays*

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