**TITLE:** OCCURRENCE OF SOME MYCOTOXINS IN MAIZE SILAGES SAMPLES COLLECTED IN THE MUNICIPALITY OF UNAÍ, MINAS GERAIS

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**ABSTRACT:**
Mycotoxins are fungal secondary metabolites that have been associated with severe toxic effects in agricultural production and public health. Mycotoxin production and/or contamination in agricultural products can take place either pre- and/or post-harvest under certain climatic factors (e.g. temperature, moisture, water activity, relative humidity). Animals and humans are exposed to mycotoxins through the consumption of the contaminated feeds and foods. The contamination of foods and animal feeds with mycotoxins is a worldwide problem. Thus, the present study aimed to investigate the occurrence of multiple toxic fungal in maize silage. Samples (n = 24) of maize silage were collected on farms located in the municipality of Unaí/MG. The mycotoxins (aflatoxins, fumonisins, zearalenone and deoxynivalenol) were quantified using immunoenzymatic method (ELISA) in two silage samples and the mycotoxins (aflatoxins, fumonisins, zearalenone and T-2 Toxin) were quantified using competitive immunochromatographic method in 22 silage samples. Of the two samples analyzed by the immunoenzymatic method (ELISA) the presence of deoxynivalenol, aflatoxins and zearalenone was detected in 100% of the samples. Deoxynivalenol values in the samples ranged from 1110 to 1190 μg/kg, these values exceeding the acceptable limit (< 929 μg/kg). In none of the samples was detected the presence of fumonisin. Of the 22 samples analyzed using competitive immunochromatographic method the presence of zearalenone and T-2 Toxin was not detected in any of the samples. In 50% of the analyzed samples was detected the presence of fumonisin with values ranging from 280 to 1194.9 μg/kg. Only one silage sample presented fumonisin value above the acceptable limit (< 1000 μg/kg). Aflatoxin was detected in 19 analyzed samples and values ranged from 2.2 to 14 μg/kg. Considering the frequent occurrence of the mycotoxins in animal feed and the chronic effects that mycotoxins can cause, the monitoring of mycotoxins is of extreme importance, aiming at the adoption of technological measures in order to reduce the exposure of the animals to these toxins.

**Keywords**: animal feeds, aflatoxin, fumonisin, fungi, zearalenone

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