EVALUATION OF MYCOTOXINS IN MAIZE, RICE AND BEANS SOLD IN THE SOUTHERN REGION OF SANTA CATARINA

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Some toxigenic fungi, mainly of the genus *Aspergillus*/*Penicillium* and *Fusarium* can grow both, in the plants in the field and during storage of grains, respectively. They can produce toxins that contaminate different foods, especially those containing cereals, pulses and fruits. Mycotoxins can cause severe damage to the body, mainly to the liver, kidneys, gastrointestinal, neurological and cardiovascular systems. They can lead to tumor development and may even be lethal. Considering the possibility of fungi growth in grains and that these foods are often consumed by the Brazilian population, the purpose of this study was to evaluate the contamination for aflatoxin (AFLs):-\(\text{AFB}_1\)-\(\text{AFB}_2\)-\(\text{AFG}_1\)-\(\text{AFB}_2\) (maize, rice and beans) and fumonisin (FBs):\(\text{FB}_1\)-\(\text{FB}_2\) (maize). The AFLs methodology used was by TLC with LOQ of 2 µg/kg for AFLs (art 975.36, AOAC, 2005) and FBs by HPLC with LOQ of 0.04/0.05 mg/kg for \(\text{FB}_1\)/\(\text{FB}_2\), respectively (art 995.15, AOAC, 2005). For analyses a total of 30, 26 and 16 samples of rice, beans and maize were investigated, respectively, during the year 2011. AFLs were not detected in any sample up to the method LOQ, however 31.25% of maize samples were contaminated by FBs below the maximum tolerated levels (MTL: 2000 µg/kg, BRASIL, 2011). The grains analyzed showed to be safe regarding to mycotoxin contamination, however, the control and monitoring of harvest and storage must to be constant, since even at low concentration FBs was found in the maize due the presence of fungi, especially *Fusarium* sp., which in some changes climate can alter present favorable conditions for their development.