DIVERSITY OF FUNGI SPECIES AND *FUSARIUM* MYCOTOXINS IN BRAZILIAN OATS

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In recent years, the use of oats has been increased due to human consumption and animal feed industry. Some studies have demonstrated that oats can be infected by toxigenic *Fusarium* species, causing quality and yield grain losses, especially due to mycotoxin contamination. Also, the contamination of the grains by mycotoxins has a major impact on human and animal health. Considering this information, the aims of this study are: to identify the mycobiota of freshly harvested oat grains from Southern region of Brazil and to determine the contamination levels of DON, 15-ADON, 3-ADON and NIV in the grains. Water activity was measured from 100 oats samples and fungi were isolated by using DRBC agar. Mycotoxin was extracted by using QUECHERS, followed by LC-DAD analysis. *Fusarium* and *Alternaria* were the most isolated fungi in oat grains, even though the mean water activity was about 0.52. Moreover, *Bipolaris*, *Nigrospora*, *Phoma*, *Cladosporium*, *Epicoccum*, *Dreschlera*, *Curvularia*, *Penicillium*, *Pestalotiopsis*, *Rhizopus*, *Mucor* and *Trichoderma* were recovered from grain samples. In one sample high levels of NIV and 3-ADON were detected, reaching 7700 µg/kg and 3300 µg/kg, respectively. Third-eight percent of the samples demonstrated DON levels above 1000 µg/kg. These results highlight the importance to establish management strategies in order to control *Fusarium* spp. and their associated mycotoxins in oat grains of Brazil.

Keywords: *Fusarium*, deoxynivalenol, toxins, cereals.

Development Agency: CNPq, FAPESP, CAPES