

FUNGI AND *FUSARIUM* MYCOTOXINS IN CORN SILAGES

V.M. dos Santos¹, A. Venâncio² and J.E. Matos³

¹Sector de Micologia, Laboratório Regional de Veterinária, Vinha Brava, 9700-236 Angra do Heroísmo Açores, Portugal. ²Centro de Engenharia Biológica da Universidade do Minho, Campus de Gualtar, 4710-057 Braga, Portugal. ³Departamento de Ciências Agrárias, Universidade dos Açores, Portugal.

e-mail: valentina.mm.santos@azores.gov.pt

Ensiled forages and grains are very important for feeding dairy cows in the Portuguese Azores islands. Fungal spoilage of animal feed silage occurs frequently. Moulds have no significant beneficial purpose to the ensiling process, and their ability to proliferate results from silage environments that are aerobically unstable, leading to unstable silage, loss of nutritive substances and mycotoxins contamination.

Eighty maize silos produced in the Azores were collected. Samples of the middle, surface, and critical points, which had visible mould contamination, were examined for the total fungi and *Aspergillus fumigatus*. Fumonisin B₁ and deoxynivalenol were analysed for in 25 samples from the silo middle, that were considered to be good silos from the dry matter and the pH perspective.

All samples contained fungi. High levels (over 10⁴ CFU/g) of yeasts were found in 70 samples (89% of total samples). Thirteen samples (54%) from the middle, 21 samples (72%) from the surface and 19 samples (86%) from the critical points contained *A. fumigatus*. *A. fumigatus* is the dominant spoilage mould in maize silage in the Azores. Other fungi that were identified belong to the genera *Absidia*, *Aspergillus*, *Cladosporium*, *Monascus*, *Mucor*, *Penicillium*, *Phoma*, *Rhizopus*, *Sepedonium*, *Trichoderma*, *Verticillium*.

The mycotoxicological evaluation indicated contamination of 14 samples (56%) with fumonisin B₁ and 10 samples (40%) with deoxynivalenol. Since *Fusarium* strains were rarely isolated, the presence of these mycotoxins could be explained by field contamination.