OCCURRENCE OF ZEARALENONE IN FEED SAMPLES INTENDED FOR DOGS


Zearalenone (ZEA) is a toxic secondary metabolite produced mainly by Fusarium graminearum. In most animals, zearalenone causes infertility, abnormal lactation, as well as stillbirth, abortion, mastitis, vaginitis or vaginal and rectal prolapse. The aim of this study was to evaluate the natural occurrence of ZEA in 100 commercial feed samples intended for dogs in Northern Paraná State, Brazil. ZEA was analyzed by a reversed-phase isocratic HPLC system (Shimadzu LC-10 AD pump and RF-10A XL fluorescence detector), using a C-18 Luna Phenomenex column. Excitation and emission wavelengths were 236 and 440 nm, respectively. The mobile phase was CH$_3$OH: H$_2$O (70:30, v/v) and the flow rate was 1.0 ml/min. ZEA was detected in 95% of samples with levels ranging from 5.45 to 442.24 ng/g (mean 49.20 ng/g, median 29.61 ng/g). Despite the high frequency of contamination, in most samples (86%) ZEA levels were below 80.0 ng/g. Although the legal limits for ZEA in feed for animal consumption have not been established in Brazil, the maximum allowed level in Japan is 1000 ng/g for any animal feed. Considering the Japanese legislation, all the feed samples were safe for dog consumption.

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