Introduction
Mycotoxin contamination of feed can affect equine health and performance. This can result in reduced animal well-being and in major economic losses for the equine industry. In addition to reduce growth rates, reproductive performance and physical performance, mycotoxins also act to weaken the immune system, leading to greater susceptibility to disease and secondary infections, and consequent increases in veterinary costs [1] [2] [3] [4] [5] [6]. Historically, the principle focus for investigation into mycotoxin contamination has been on grain, yet evidence is now accumulating that roughage and even straw used as bedding can as bedding or ‘environmental enrichment’ can play a role in mycotoxicosis.

Mycotoxins are naturally occurring, toxic chemical compounds produced by filamentous fungi (molds). These molds can produce a variety of mycotoxins, such as aflatoxin, fumonisin, deoxynivalenol (DON), ochratoxin A, T-2 toxin and zearalenone. Accurate diagnosis of a mycotoxicosis is difficult because affected animals may exhibit few or many of a variety of symptoms. The fact that most of the symptoms are rather unspecific and can be caused by many other factors makes it often difficult to properly diagnose mycotoxicosis problems.

The aim of the present trial was to investigate the concentration of different mycotoxins in feed and straw of 6 Irish racehorse farms in order to get a measure for actual challenge levels.

Materials and Methods
A total of 175 feed and straw samples were collected during the time period October 02 - March 03 in 6 Irish racehorse farms. All samples were analyzed by ELISA for the following six mycotoxins: aflatoxin, ochratoxin, fumonisin, deoxynivalenol (DON), ochratoxin A, T-2 toxin and zearalenone. The samples were grouped as straw, hay/haylage, grain and mixed feed and the data were analyzed by descriptive statistics.

Results and discussions
Zearalenone and DON were the 2 main mycotoxins found in the samples (Table 1 and 2). The maximal concentration measured for aflatoxin was 17.7 ppb, for fumonisin 627.0 ppb, for ochratoxin 22,1 ppb and for T-2 toxin 208.1 ppb.

Mycotoxin concentrations varied from farm to farm with the mean farm concentrations for zearalenone ranging from 20 to 117 ppb and the mean farm concentrations for deoxynivalenol ranging from 50 to 270 ppb. Many of the samples were contaminated with multiple Fusarium mycotoxins. This is of concern, as mycotoxins can act synergistically.

Overall, the survey demonstrates that mycotoxins are present in considerable concentrations in both the bedding and the feed. Bedding and feed qualities have to be managed properly and mycotoxins should be taken into consideration when performance, health or reproductive problems do occur on horse farms.

References