



2023 Crop Year Mycotoxin Report

From June 2023 through March 2024, the Commercial Feed Regulatory Program (CFRP) obtained 66 samples of various feeds for mycotoxin analysis (**Figure 1**). Samples of whole corn were obtained beginning November 1, 2023 to represent the 2023 crop year. Of the 66 samples obtained, 65 were routine official samples and 1 was an investigative sample, which was in response to a complaint. The University of California, Davis, California Animal Health and Food Safety Laboratory conducted 10 mycotoxin analyses on each of the 66 samples, for a total of 660 analyses. Samples were analyzed for Aflatoxin B1, B2, G1, G2 ppb, HT-2 ppb, Zearalenone (F-2 Toxin) ppm, Fumonisin B1 ppm, Deoxynevalenol (DON) ppm, Ochratoxin ppb, and T2 Toxin ppm.

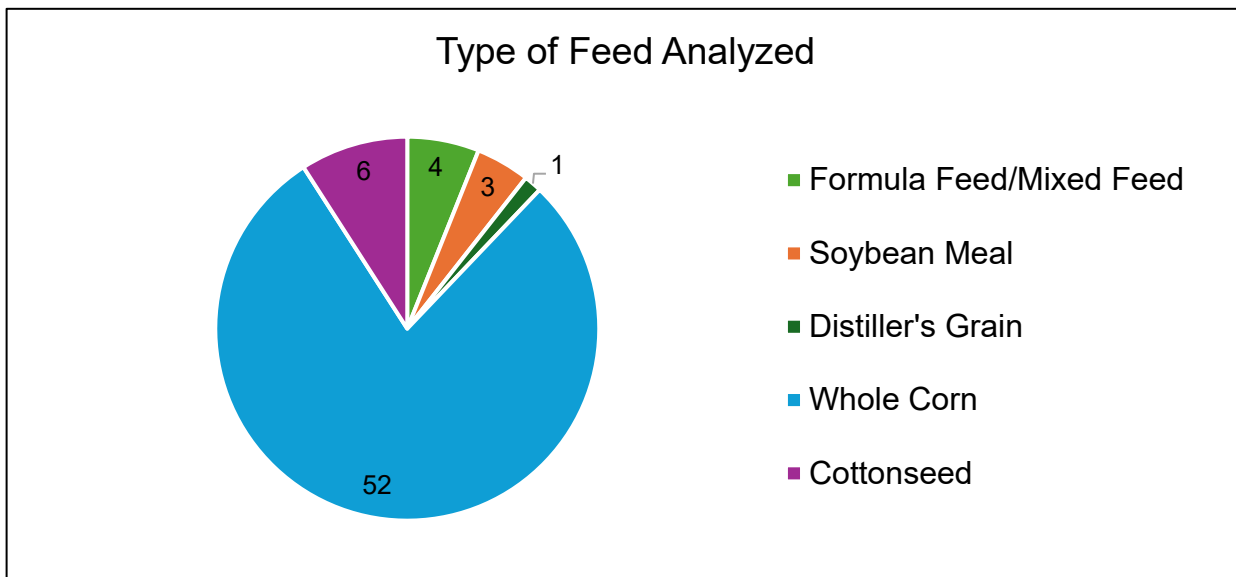


Figure 1. Feed type of 66 samples obtained and analyzed by the CFRP for mycotoxins.

The US Food and Drug Administration (FDA) has established tolerance levels for aflatoxin, fumonisin and deoxynevalenol (vomitoxin) by species and class of livestock¹. The tolerance level for aflatoxins varies by species from 300 parts per billion (ppb) for finishing beef cattle to 20 ppb in dairy cattle. Due to California's prominent dairy industry, CFRP requires that all commercial feed in California not exceed 20 ppb total aflatoxin, since it can be transferred into milk and poses a human health concern. Tolerance levels for fumonisin range from 5 parts per million (ppm) for equids and rabbits to 100 ppm for poultry raised for slaughter. Deoxynevalenol tolerance levels in feed ingredients range from 5 ppm for swine to 30 ppm for beef cattle. FDA has not established guidance for the other mycotoxins tested.

Of the 66 samples analyzed, 56 (85%) resulted in no detectable levels of mycotoxins (**Figure 2**). There were 10 samples of corn with detectable levels of mycotoxins. Eight of those samples had detectable levels of fumonisin B1, which were all under 4 ppm. Of those 8, 1 also had a detectable level of aflatoxin B1 (11 ppb) which was under the maximum limit of 20 ppb. Of the remaining 2 samples, one had detectable levels of aflatoxin B1 (under 9 ppb) and the other deoxynevalenol (vomitoxin) (under 2 ppm). No samples contained any detectable levels of aflatoxin B2, aflatoxin G1, aflatoxin G2, Zearalenone (F-2 toxin), T-2 toxin, H-T2, or ochratoxin. None of the samples contained levels of mycotoxin considered to be a safety concern and no regulatory action was necessary.



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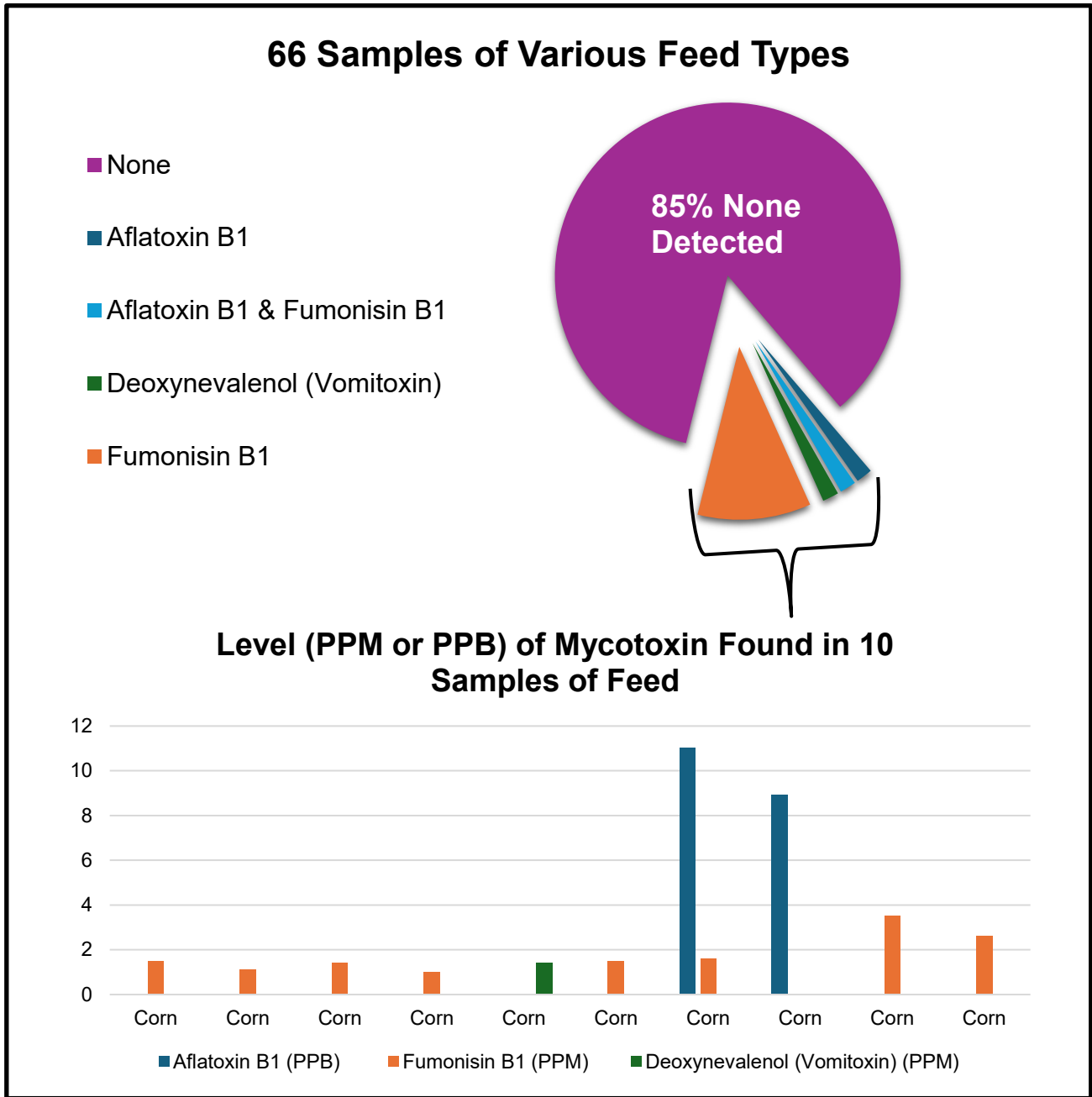


Figure 2. Mycotoxins detected in 10 of 66 samples of various feeds from the 2023 crop year and the levels detected. Fumonisin and deoxynevalenol are reported in PPM; aflatoxin B1 is reported in PPB. FDA tolerances vary by species, with a maximum tolerance of 20 ppb for aflatoxin and 5 ppm for fumonisin and deoxynevalenol.

1: FDA Center for Veterinary Medicine (2016). CVM Annual Report on Mycotoxins in Animal Food Report for Fiscal Year 2016. <https://www.fda.gov/media/130526/download>