



## 2020 Crop Year Mycotoxin Report: Corn & Cottonseed

The California Department of Food and Agriculture (CDFA) Commercial Feed Regulatory Program (CFRP) surveys each year's corn crop received at feed mills in California for the presence of mycotoxins.

The U.S. Food and Drug Administration (FDA) has established tolerance levels for aflatoxin, fumonisin and vomitoxin by species and class of livestock<sup>1</sup>. 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, the 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 fumonisins range from five parts per million (ppm) for equids and rabbits to 100 ppm for poultry raised for slaughter. Vomitoxin tolerance levels in feed ingredients range from five ppm for swine to 30 ppm for beef cattle. The FDA has not established guidance for the other mycotoxins tested.



*CFRP obtained 51 samples of whole corn received by feed manufacturers via rail car as part of the CDFA Corn Sampling Survey.*

### Whole Corn Sampling

Between November 2020 and June 2021, the CFRP obtained 51 official samples of whole corn received by feed manufacturers via rail car as a part of the annual CDFA Corn Sampling Survey. Corn samples originated from Nebraska, Minnesota, Iowa, South Dakota, and Vermont. Of the samples taken, 65% originated from Nebraska.

The University of California, Davis California Animal Health and Food Safety Laboratory conducted 10 mycotoxin analyses on each of the 51 samples, for a total of 510 analyses. Of the 51 samples analyzed, over 84.3% resulted in no detectable levels of mycotoxins (Figure 1). There was one sample with detectable levels of aflatoxin (B1); it was under the California requirement of 20 ppb, as shown in Figure 1. There were seven samples with detectable levels of deoxynivalenol (vomitoxin), which were all below one ppm. No samples contained any detectable levels of aflatoxin B2, aflatoxin G-2, aflatoxin G-1, fumonisin B1, T-2 Toxin, H-T2, zearalenone (F-2 Toxin),



or ochratoxin. The CFRP did not identify any corn products from the 2020 crop year with concerning levels of mycotoxins, or any trends by state of origin.

### Cottonseed Sampling

Additionally, CDFA obtained 12 official samples of whole cottonseed and completed 84 mycotoxin analyses (some samples only tested for aflatoxins). The cottonseed originated from California, Arizona, Kansas, Oklahoma, Mississippi, Missouri, Illinois, and Louisiana. There was one sample with a detectable level of mycotoxins (6 ppb aflatoxin B1) originating from Arizona.

There was also an incident in March 2021 where damaged whole cottonseed was found by CDFA inspectors. All product was placed under quarantine and seven investigational samples were taken and tested for aflatoxins. None of these samples resulted in detectable levels of aflatoxins, so the cottonseed was sold as “damaged” under quarantine.

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>

**Figure 1.** Mycotoxins detected in 8 of 51 samples of whole corn from the 2020 crop year and level (PPM, aflatoxins reported in PPB) of mycotoxins detected.

