



# QUARTERLY FEED UPDATE

Issue 2 | Spring 2020

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## Calendar

April 30, 2020  
2020 Quarter 1  
Tonnage Tax Due

May 25, 2020  
Memorial Day

## Notice to Industry: COVID-19

The California Department of Food and Agriculture's Commercial Feed and Livestock Drug (CFLD) Program will continue to ensure that products which the California feed industry supplies to animal agriculture will result in a clean and wholesome supply of meat, milk, and eggs for the benefit of the consumer. The Programs mission is to provide assurance to the consumer-buyer of commercial feed that any product purchased is properly identified and of the quality and quantity represented by the manufacturer of the commercial feed.

Additionally, the program will continue to ensure that feed products do not contain any poisonous, deleterious, or nonnutritive substance, including drugs which are unsafe, and that all products are labeled in compliance with Program regulations. As a reminder, all products containing drugs or other additives are to be manufactured in compliance with industry requirements and all feed should continue to meet the quality and purity characteristics guaranteed.

The CFLD Program is continuing to communicate with feed manufactures so that we are aware of any supply chain interruptions that can be reported to Cal-OES. CFLD is also encouraging firms to follow their established bio-security practices and employee hygiene practices.

As of now, CFLD Program has shifted field activities to focus on end-product testing, when possible, to practice social distancing and minimize additional stress on firms. We will continue to respond to all animal health related consumer complaints in order to meet the above directives. This plan is place for the next 30 days and will continue to evolve as information is received.

Please do not hesitate to contact the field staff member in your area with any questions or concerns. The program wants to ensure that the feed and livestock industries are sustained in California. Additionally, please, reach out to the field staff in your area if you are anticipating a feed ingredient deficit so that the program can alert Cal-OES resources of the issue.

We understand these are trying times, but the CFLD Program remains fully committed to supporting the California feed industry by ensuring feed safety and consumer confidence.

For additional information or questions, please contact the Program at (916) 900-5022.

Sincerely,

Jenna M. Leal, Environmental Program Manager I

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## Annual Corn Survey Results

Between November 2019 and February 2020 CDFA obtained 37 official samples of whole corn received by feed manufacturers via rail as a part of our annual Corn Survey. This is a preliminary report of the initial samples, and a final report will be published when all the samples are analyzed. The program obtained samples of corn originating from 4 States (Nebraska, Iowa, Kansas, and Minnesota). The Crude Protein averaged 7.1%, ranging from 6.1% to 7.9%.

Of the 370 analyses completed (37 samples with 10 mycotoxin analyses) by the CDFA Center for Analytical Chemistry, 70% resulted in no detectable levels of mycotoxins (minimum detection level ranges from 0.001-0.025 ppm). There were no detectable levels of aflatoxins in any of the samples (Figure 1), with a minimum detection limit of 1 ppb (0.001 ppm). Levels of zearalenone (F-2 Toxin), H-T2, T-2, and ochratoxin were either undetectable or below 1 ppm in all samples. Deoxynivalenol (vomitoxin, DON) levels ranged from 0.17 to 4.7 ppm, with 3 samples over 2 ppm. Fumonisin B1 levels ranged from no detection to 5.1 ppm with only 1 sample above 4 ppm.

The program did not identify any corn products from the 2019 crop year with concerning levels of mycotoxins, or any trends by state of origin. 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 ppb for finishing beef cattle to 20 ppb in dairy

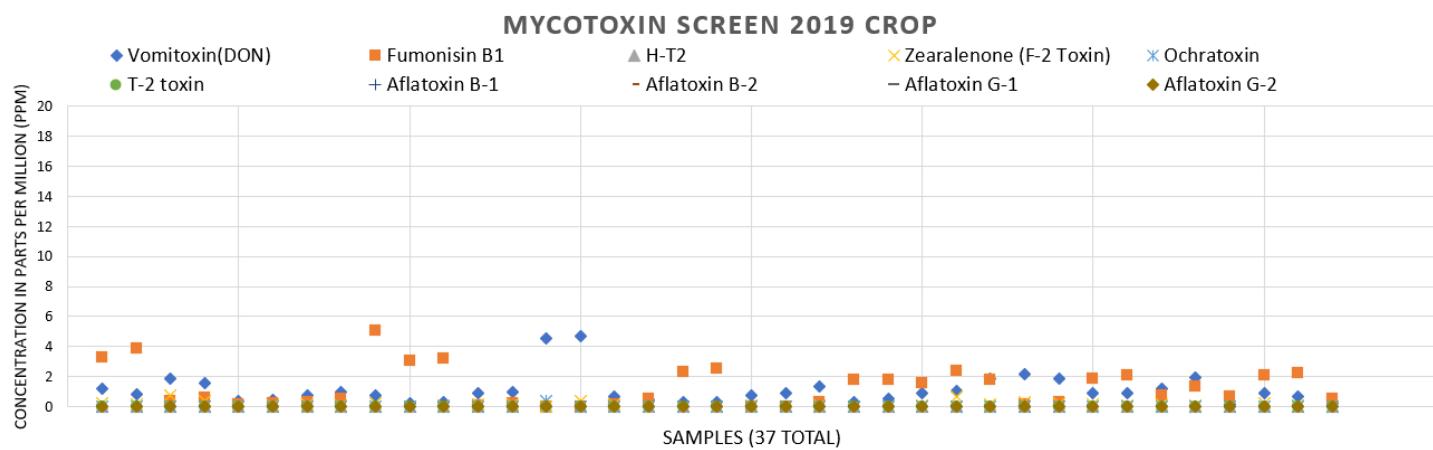
cattle. Equids and rabbits are the most sensitive to Fumonisin, with federal tolerance of 5 ppm in corn products. Although 1 sample did contain 5.1 ppm Fumonisin B1, several other samples from the same origin did not reach that threshold. Vomitoxin tolerance levels in feed ingredients range from 5 ppm for swine to 30 ppm for beef cattle. FDA has not established guidance for the other mycotoxins tested, however all results were below 1 ppm and the majority were undetectable.

In October 2019 there was an incident in which whole corn was quarantined under suspicion to be high in aflatoxin. This was not part of the corn study since it was inconclusive if the product was 2019 or 2018 crop year, and therefore not included in Figure 1. Under CDFA investigation it was determined that the corn was misrepresented at origin when it was sent to the firm. Two samples were found at destination above 20 ppb so the corn was quarantined as adulterated with aflatoxin. Since the aflatoxin levels were under 40 ppb and not high enough to warrant concern for beef cattle, which have a federal tolerance of 300 ppb, all of the corn was transferred under quarantine to be fed to beef cattle only.

<sup>1</sup> FDA CVM (2016). CVM Annual Report on Mycotoxins in Animal Food Report for Fiscal Year 2016.

<https://www.fda.gov/media/130526/download>

**Figure 1. Results of mycotoxin screen (ppm) for 37 individual whole corn samples from the 2019 crop year.**



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## Hemp Research Update

The Safe Animal Feed Education Program (SAFE) functions to provide outreach and education to the California Livestock Feed Industry to support the production of a safe and wholesome food supply chain. One of the ways the SAFE Program accomplishes this goal is to support research of livestock feed products that may impact the quality of livestock food products that enter the human food chain.

With the passage of the 2018 Farm Bill, Industrial Hemp was legalized for production throughout the United States. Industrial Hemp is grown for the purpose of fiber for textiles and to produce cannabidiol (CBD) oil. The legalization of farming Industrial Hemp has led to many questions about the uses of byproducts from its commercial harvest.



**Figure 1.** Industrial Hemp growing at UC Davis.



**Figure 2.** Industrial Hemp Byproduct courtesy of UC Davis Animal Science Department.

The California Livestock Feed Industry leads the nation in its use of byproducts utilized for livestock feed. These products often originate from the processing human food or products that are not suitable for human consumption, but which are safe for use as high quality animal feed. The impact of using byproducts includes decreasing the amount of food waste diverted to landfills and offering quality feed to livestock producers at reduced costs.

A novel byproduct from the production of CBD Oil has been identified as a potential feed for livestock animals. Little is known about the safety and efficacy of this byproduct as a livestock feed. To better understand this byproduct, the SAFE Program is currently supporting research being conducted at UC Davis to evaluate the safety and efficacy of Industrial Hemp byproducts as a livestock feed. The research will be divided into two distinct phases. Phase I will include lab work to establish the nutrient composition of the novel hemp byproduct. Based upon the results of Phase I, Phase II will be an animal feeding project using lactating goats as an animal model. Phase 1 research started in Quarter 1 of this year and Phase 2 is due to begin during Quarter 2 of the 2020 calendar year.

For more information about the research project, please contact Cathryn McCandless and Environmental Scientist from the SAFE Program at [Cathryn.Mccandless@cdfa.ca.gov](mailto:Cathryn.Mccandless@cdfa.ca.gov).

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## 2019 Sample Report

In 2019 the feed program took 945 samples of feed (Table 1). The program's primary focus was on food safety analyses including mycotoxin screens, pesticide screens, medicated feed, nutrient requirements, heavy metals and more. Over 67% of the samples obtained last year were analyzed for food safety reasons, with the other 33% focused on label compliance. Feed investigators also completed 5 mixer studies and 7 flush verification studies. The program aimed to sample both ingredients and manufactured feed originating within California as well as out-of-state or other countries. In 2019 samples were obtained of product originating from; Canada, Mexico, Arizona, Georgia, Illinois, Iowa, Kansas, Kentucky, Maryland, Minnesota, Missouri, Nebraska, Oklahoma, South Carolina, South Dakota, Utah, Wisconsin, and Texas.

Of the total samples obtained last year 916 have analyses completed and reported, therefore the following violation assessment is a preliminary report of those samples only. Food safety screens were completed including 18 pesticide residue, 111 mycotoxin, 8 heavy metal, and 5 microscopies. There were no pesticide residues detected, no unacceptable levels of heavy metals, and other than 1 incident (mentioned in Corn Study) no mycotoxins above the FDA tolerance levels. Microscopy was used to identify foreign material and damaged feed (mold).

Of the 916 samples reported 802 were Official Samples and 258 received a violation (32% violation rate), with some samples receiving multiple violations. Of those, 40 were from manufacturers not licensed to sell commercial feed in California (15.5% of violative samples). Excluding investigative samples, 156 samples of medicated feed were taken and 11.5% were in violation for inaccurate drug levels. Almond hulls accounted for 13.5% of total violations, and 27% of all almond hull samples taken in 2019 were in violation. An additional 63 label related violations were issued. Within these 258 violative samples 202 individual violations for failure to meet guaranteed analysis were issued (Table 2). There was a high occurrence of protein violations in 2019, with 23% of violative samples and over 7% of all official samples receiving a crude protein violation.

**Table 1.** Total samples of various types collected in 2019.

Type	2019 Count	Percent
Mixer Study	5 studies (50 samples)	5.3%
Flush Verification	7 flushes (18 samples)	1.9%
Corn	65	6.9%
Cottonseed	57	6.0%
Almond Hulls	128	13.6%
Vitamin Mineral Premix	84	8.9%
Out-of-State/Country	91	9.6%
Complete Feed (non-medicated only)	159	16.8%
Medicated Feed (Official samples only)	156	16.5%
All other ingredients & mixes	137	14.5%
<b>2019 Total</b>	<b>945</b>	<b>100%</b>

**Table 2.** Individual violations in guaranteed analysis that were issued in 2019.

Analysis	# Violations
Crude Protein	59
Crude Fiber	38
Crude Fat	8
Moisture	10
Medications	18
Selenium	12
Other Minerals/Vitamins	48
Misc.	9
<b>Total</b>	<b>202</b>

**Have feed questions? We can help!**

# **CONTACT US**



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**VIEW FIELD STAFF TERRITORY MAP**

For VFD submission questions, please email  
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