Analysis of Animal Feed Products Sold in Connecticut During 2025

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INTRODUCTION

The Animal Feed Regulatory Program Standards (AFRPS) were designed to institute a uniform framework for the establishment of animal feed monitoring programs at the state level. In Connecticut, The Agricultural Commodities Division of The Department of Agriculture (DoAg) is responsible for regulation and inspection of animal feeding products and pet foods. Products collected by DoAg's commodity inspectors are delivered to the Department of Analytical Chemistry (DAC) at The Connecticut Agricultural Experiment Station (CAES) for analysis to ensure compliance with state and federal regulations. The laboratories in the Department of Analytical chemistry are ISO 17025:2017 accredited to perform percent crude fat, percent crude protein, pesticides, and Aflatoxin analysis in animal feeds. This accreditation ensures accurate results with appropriate quality control samples and record keeping.

Aflatoxins are carcinogenic toxins produced by the fungus *Aspergillus flavus*. *A. flavus* mold can grow on cereal grains and legumes such as corn or peanuts while in storage. In December 2020, there were 28 out of state fatalities linked to dog food contaminated with Aflatoxins (1). This event triggered an FDA recall of the associated animal feed batches. A similar event occurred in September of 2020, with a recall extending to animal feeds that used the same corn grain. There are four main Aflatoxins B1, B2, G1, and G2. Aflatoxin B1 is predominant and considered the most toxic. If ingested, B1 and B2 can be transformed into Aflatoxin metabolites M1 and M2 respectively, which can be transferred into milk. The toxins can also enter the human food chain both by direct consumption of the product, or through livestock that have eaten the contaminated product. Currently, the FDA has a set action level for combined Aflatoxins (B1+B2+G1+G2) ranging from 100-300 µg/kg for beef cattle, swine, or poultry-fed animal feed containing corn, peanut, or cottonseed ingredients. A lower action level of 20 µg/kg is in place for animal feeds intended for dairy animals, immature animals, and pets (2).

Deoxynivalenol is a toxin produced by different Fusarium molds that can grow on wheat, corn, oats, barley, and other grains. The FDA has set advisory levels for Deoxynivalenol present in grains and grain by-products used to produce animal feeds ranging from 5000 µg/kg to 10000 µg/kg for cattle, 10000 µg/kg for chickens, and 5000 µg/kg for swine and other animals (3).

Fumonisin is a toxin produced by some strains of Fusarium that can grow on corn and sometimes wheat. The FDA has established guidelines for the total amount of fumonisin (fumonisin FB1 + FB2 + FB3) for corn intended for use in animal feeds. Limits range from 5000 µg/kg to 60000 µg/kg, depending on the livestock type and age consuming the feed (4).

Vitamin D is a fat-soluble secosteroid essential for calcium and phosphorus homeostasis, skeletal development, and immune function in companion animals. Because dogs and cats are unable to synthesize sufficient vitamin D through UV exposure, they rely almost entirely on dietary vitamin D_2 (ergocalciferol) and D_3 (cholecalciferol). In commercial animal feed, inadequate supplementation may lead to impaired bone mineralization and hypocalcemia, whereas excessive inclusion can result in hypervitaminosis D, characterized by hypercalcemia, hyperphosphatemia, soft tissue mineralization, and potentially irreversible renal failure. The Association of American Feed Control Officials (AAFCO) establishes nutrient profiles for complete and balanced pet foods, including a vitamin D range of 12.5–75 µg/kg (dry matter basis) for adult dogs (5). Multiple recalls highlight the risks associated with misformulation: in 2018–2019, numerous dry and canned dog foods were recalled due to excessive vitamin D levels; in 2023, a veterinary therapeutic dry dog food was recalled following confirmed cases of canine vitamin D intoxication. These incidents underscore the need for analytical monitoring and regulatory compliance to ensure the safety and nutritional adequacy of commercial pet foods.

METHODS

In calendar year 2025, The Department of Analytical Chemistry at CAES analyzed 71 animal feed products for label guarantees, 44 products for the presence of mycotoxins (aflatoxins, deoxynivalenol, and fumonisin), 16 samples for pesticides, 23 samples for macro minerals and toxic metals, and four samples for vitamin D analysis, for products that were for sale in Connecticut (see Appendix for full samples description). Animal feeds were collected by DoAg's Commodity Inspectors at manufacturing facilities, wholesale dealers, and retail locations. Samples were drawn from bulk storage/delivery containers, as well as from retail bags, boxes, and cans.

After delivery to CAES, the animal feed products were sub-sampled and prepared for analysis. The samples were analyzed for protein, fat, and fiber based on modified methods described in Official Methods of Analysis of AOAC International (6). Briefly, protein is calculated based on the total nitrogen determined by using a Leco FP828 combustion instrument. Fat is determined gravimetrically using solvent extraction either with or without acid hydrolysis depending on the product matrix type. Crude fiber is determined gravimetrically as the loss on ignition of the sample following extraction with petroleum ether, an acid solution, a base solution and acetone.

Aflatoxins, deoxynivalenol and fumonisins were extracted using a modified QuEChERS (quick, easy, cheap, effective, rugged, and

safe) method, using 10% formic acid in acetonitrile as the extraction solvent. Sample extracts were filtered then analyzed using a liquid chromatograph coupled to a high-resolution mass spectrometer (LC-HRMS).

Pesticide residues were extracted using modified QuEChERS method, using acetonitrile as the extraction solvent, followed by cleanup. Sample extracts were analyzed for 360 pesticides using LC-HRMS and a gas chromatograph coupled to a tandem mass spectrometer (GC-MS/MS).

Samples analyzed for macro and micro nutrients [calcium (Ca), potassium (K), magnesium (Mg), sodium (Na), and phosphorus (P); and copper (Cu), iron (Fe), molybdenum (Mo), and zinc (Zn)], and toxic elements [arsenic (As), cadmium (Cd), mercury (Hg), and lead (Pb)] were prepared by closed vessel microwave acid digestion with analysis using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) and Inductively Coupled Plasma Mass Spectroscopy (ICP-MS).

The samples for vitamins were analyzed based on the AOAC Official Method 2016.05 (7). Vitamin D_2 and vitamin D_3 were extracted from the animal feed through saponification at high temperature, with the lipid-soluble vitamins subsequently extracted into isooctane. An aliquot of the isooctane was washed, followed by derivatization of the vitamin D in the solution using 4-phenyl-1,2,4-triazoline-3,5-dione (PTAD). The resulting vitamin D adduct was then extracted into acetonitrile and analyzed using liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS).

All results are submitted to CT DoAg for possible regulatory response, where necessary.

RESULTS AND DISCUSSION

Label Guarantees

Table 1 shows the results for the analysis of percent crude protein, percent crude fat, and percent crude fiber. The label guaranteed nutrient value is denoted as (G) and the laboratory determined nutrient value is denoted as (R). As per guidelines established by the Association of American Feed Control Officials (AAFCO), protein and fat must exceed the label guarantee, and fiber must be below the label guarantee (Table 1). In addition, AAFCO provides a formula to calculate the allowable variation to the label guarantee, which for fat and protein allows the test result to be below the label amount and for fiber allows the test result to be above the label amount. In addition, the laboratory calculates the range of the test result based on the calculated measurement uncertainty. For fat and protein, if the upper end of the test result range is equal to, or exceeds, the allowed variability to the label, the sample passes. For fiber, if the lower end of the test result range is below, or equal to, the allowed variability to the label, the sample passes.

One sample was found to be deficient in Protein in 2025. FED25-139MY was deficient at 9.3% protein, the upper end of the test result range (10.3% protein) based on the method uncertainty is less than the AAFCO allowed variability (10.6% protein) for the label. Two samples were found to be deficient in Fat in 2025. FED25-025 was

deficient at 22.4% fat, the upper end of the test result range (24.2% fat) based on the method uncertainty being less than the AAFCO allowed variability (36.0% fat) for the label. FED25-051 PA was deficient at 3% fat, the upper end of the test result range (3.3% fat) based on the method uncertainty being less than the AAFCO allowed variability (3.6 % fat) for the label. These results can be found in Table 1.

Aflatoxins, Deoxynivalenol, and Fumonisin

Animal feed products analyzed for mycotoxins in 2025 are shown in Table 2.

All 44 animal feed products tested for aflatoxin B1, B2, G1, and G2 were below the reporting limit of 2.5 µg/kg. 42 of the 44 samples tested for fumonisin B1, B2, and B3 were below the reporting limit of 1000 µg/kg, 400 µg/kg, and 200 µg/kg, respectively. Two animal feed products tested were found to contain fumonisin above the reporting limit but below the FDA guidance level for total fumonisin. Additionally, 13 samples (30%) were found to contain deoxynivalenol above the reporting limit of 250 µg/kg but below the FDA guidance of 5000 µg/kg.

Pesticides

For the 2025 calendar year, 16 animal feed samples were analyzed for the presence of pesticide residues (Table 3). None of the tested samples contained pesticide residues above the reporting limit of 0.01 mg/kg.

Elemental Analysis

A total of 23 animal feeds were analyzed for their elemental composition. These results can be found in Table 4. Four samples were found to be deficient when compared to their label guarantees. FED25-042MM, Dairy Cattle - Wauregan Feeds Milker's Choice 1680, exceeded the label guarantee for Calcium; Label Guarantee = 1.3 % max, AFFCO Allowable variation = 1.518 % max. FED25-0063MM, Goat - Nutrena County Feeds Goat 17% Textured Feed, was below the label guarantee for Sodium; Label Guarantee = 0.25 % min, AFFCO Allowable variation = 0.2125 % min. FED25-084MM Bovine (Dairy) Poulin Grain High Line 16% Dairy/Beef Pellet, exceeded the label guarantee for Calcium; Label Guarantee = 1.4 % max, AFFCO Allowable variation = 1.624 % max . FED25-0133 Bovine (Dairy) Producers Pride Calf Starter Dairy was below the label guarantee for Sodium; Label Guarantee = 0.25 % min, AFFCO Allowable variation = 0.2125 % min. Animal feed products are reported as unsatisfactory based on guidelines established by AAFCO (8).

Vitamin D_2 and Vitamin D_3

In the 2025 calendar year, a total of four samples were analyzed to quantify vitamin D_2 and vitamin D_3. The results are presented in Table 5. Only one sample, which did not list vitamin D in the ingredient statement, was found to contain vitamin D_2 and D_3 at levels below the reporting limit (0.8 µg/kg). Additionally, one sample was found to contain only vitamin D_3. Although vitamin D_3 was listed in the ingredient statement, it was not guaranteed on the label. This sample did not meet the minimum AAFCO Dog Nutrient Profile recommendation of 12.5 µg/kg (5). The two remaining samples listed only vitamin D_3 as an ingredient, however,

measured levels of both vitamin D_2 and D_3 were above the reporting limit, and the total vitamin D content met the AAFCO recommendation.

Table 1. A comparison between label guarantees (G) and analytical results (R) for animal feeds tested for proximate analysis during the 2025 calendar year. Values in red indicate results that did not pass. Results in %.

Sample ID	Protein		Fat		Fiber	
	G	R	G	R	G	R
FED25-024	20	23.6	10	21	3	<1
FED25-025	47	57.3	40	22.4, Fail	5	<1
FED25-026	9	8.9	3	8.5	3	2.2
FED25-027	45	48.7	26	28	5	<1
FED25-028	31	41.6	20	21	2	<1
FED25-029	12	16.8	9	16.7	7	4
FED25-030	22	22.9	12	11.7	5	3.1
FED25-031	32	35	16	15.8	3.3	3.4
FED25-032	10	10.6	5	7.9	1	<1
FED25-033	9	9.9	6	8.9	1.5	<1
FED25-034	7	7.6	4	5.8	1.5	<1
FED25-035	11	9.9	7	16.9	1	< 0.2
FED25-036	9	9.5	7	8.7	1.5	<1
FED25-037	10	12.6	1.4	1.9	0.5	<1
FED25-038	11	12.9	2	3.3	1.5	<1
FED25-039	25	27.4	10	18.2	2	<1
FED25-040	11	11.4	2	3.4	1.5	<1
FED25-041 PA	16	20.7	3	4.7	8	8.3
FED25-044 PA	12	13.2	2	2.6	18	18.7
FED25-046 PA	14	16.3	2	3	11	7.5
FED25-049 PA	16	15.4	3.5	3	12	5.9
FED25-051 PA	16	17.5	4	3, Fail	5.5	5
FED25-053 PA	15	16.2	1.5	2.6	20	14.5
FED25-058 PA	14	15.4	1.5	4.3	14	16.4
FED25-060 PA	15	16	3	5	13	10.7
FED25-062 PA	17	17.6	3	3.1	12	5.9

Table 1. A comparison between label guarantees (G) and analytical results (R) for animal feeds tested for proximate analysis during the 2025 calendar year. Values in red indicate results that did not pass. Results in %.

Sample ID	Protein		Fat		Fiber	
	G	R	G	R	G	R
FED25-064 PA	16	17.5	3	3.6	16	9.1
FED25-066 PA	16	16.6	3	3.5	16	8.9
FED25-071 PA	14	15.7	3.5	3	14	12
FED25-073 PA	15	15.5	4	4.2	16.5	10.1
FED25-075 PA	14	16.4	6	6.3	18	15.3
FED25-077 PA	16	16.8	2.5	3.8	10	7.1
FEED25-082	15	14	3	3.5	4	3.6
FED25-083 PA	16	18	3	4.5	10	8.3
FED25-086 PA	16	17.5	3	4.1	9	6.3
FED25-089 PA	20	21.2	3.5	3.3	8	4.7
FED25-092PA	18	19.4	3.5	3.7	7	7.1
FED25-095PA	40	40.7	2	2.4	6	5.9
FED25-098PA	22	24.4	3.5	3	7	6
FED25-101PA	14	17.1	3.5	4.9	16	15.1
FED25-103PA	15	17.3	4	5.4	15	9.1
FED25-105PA	12	13.2	5	6.3	15	16.5
FED25-108PA	12	12.2	1	2.6	26	25.2
FED25-111PA	14	16.8	2	4.5	11	7.6
FED25-114PA	14	17.2	3.5	5.7	16	14.9
FED25-119PA	15	16.6	3	4.2	17	16.5
FED25-127PA	20	21.3	2.5	5.1	10	9.1
FED25-130PA	20	20.9	3.5	4.6	5.5	6.1
FED25-132PA	16.2	17.1	1.8	4.4	12.5	5
FED25-135PA	12	11.9	1	2.4	26	26.4
FED25-138MY	15	13.6	17.5	14.8	4	1.9
FED25-139MY	11	9.3, Fail	6	6.1	1	0.5

Table 1. A comparison between label guarantees (G) and analytical results (R) for animal feeds tested for proximate analysis during the 2025 calendar year. Values in red indicate results that did not pass. Results in %.

Sample ID	Protein		Fat		Fiber	
	G	R	G	R	G	R
FED25-140MY	25	29.1	15	19.9	5	2.3
FED25-141MY	8	9.5	5.5	7	2	< 0.2
FED25-142MY	9	11.1	6.5	9.9	1	< 0.2
FED25-143MY	8	9.8	7	9.7	1.4	< 0.2
FED25-144MY	8	9	3	4.2	1.5	0.2
FED25-145MY	8	9.3	4.5	3.8	1.5	< 0.2
FED25-146MY	8	9	2	2.8	1	< 0.2
FED25-147MY	14	16	4	6.8	1.5	< 0.2
FED25-148MY	9	9.5	2	3.4	1	0.3
FED25-149MY	8	7.1	0.5	2	3.5	1
FED25-150MY	9.5	11.8	7	9.6	3	3.2
FED25-151MY	6.8	9.3	5.1	7.6	2.6	< 1
FED25-152MY	14	16	6	7.6	5	2.3
FED25-153MY	13	16.5	13	14.6	3	2.3
FED25-154PA	18	20	3	4.5	9	6.7
FEED26-005	5.7	8.1	5	4	0.5	1
FEED26-014	26	27.3	16	15.9	3	1.7
FEED26-019	28	29.9	17	16.9	3	2.4
FED26-024	16	15.4	2.5	2.7	18	17.2

Table 2. List of animal feeds tested for Aflatoxins B1, B2, G1, and G2; Deoxynivalenol; and Fumonisin FB1, FB2, and FB3 in the year 2025. Results in µg/kg.

Sample ID	Total Aflatoxins	Deoxynivalenol	Total Fumonisin
FED25-008 MY	<1	<500	<LOR
FED25-11	<1	<500	<LOR
FED25-020 My	<1	<500	<LOR
FED25-023 My	<1	<500	<LOR
FED25-043 MY	<2.5	769	<LOR
FED25-045 MY	<2.5	<250	<LOR
FED25-048 MY	<2.5	<250	<LOR
FED25-057 MY	<2.5	717	<LOR
FED25-059 MY	<2.5	<250	<LOR
FED25-061 MY	<2.5	<250	<LOR
FED25-069 MY	<2.5	<250	<LOR
FED25-072 MY	<2.5	<250	<LOR
FED25-074 MY	<2.5	<250	<LOR
FED25-076 MY	<2.5	<250	<LOR
FED25-078 MY	<2.5	457	<LOR
FEED25-081	<2.5	862	<LOR
FED25-085MY	<2.5	<250	<LOR
FED25-088MY	<2.5	<250	<LOR
FED25-091MY	<2.5	417	<LOR
FED25-094MY	<2.5	419	<LOR
FED25-097MY	<2.5	<250	<LOR
FED25-100MY	<2.5	<250	<LOR
FED25-102MY	<2.5	<250	<LOR
FED25-104MY	<2.5	<250	<LOR
FED25-107MY	<2.5	516	<LOR
FED25-110MY	<2.5	<250	<LOR
FED25-113MY	<2.5	<250	<LOR
FED25-115MY	<2.5	<250	<LOR
FED25-117MY	<2.5	825	<LOR
FED25-120MY	<2.5	<250	<LOR
FED25-122MY	<2.5	1721	3116
FED25-125MY	<2.5	1692	2909

Table 2. List of animal feeds tested for Aflatoxins B1, B2, G1, and G2; Deoxynivalenol; and Fumonisin FB1, FB2, and FB3 in the year 2025. Results in µg/kg.

Sample ID	Total Aflatoxins	Deoxynivalenol	Total Fumonisin
FED25-129MY	<2.5	343	<LOR
FED25-132MY	<2.5	450	<LOR
FED25-134MY	<2.5	517	<LOR
FED25-137MY	<2.5	<250	<LOR
FED25-156MY	<2.5	<250	<LOR
FEED26-003	<2.5	<250	<LOR
FEED26-008	<2.5	<250	<LOR
FEED26-012	<2.5	<250	<LOR
FEED26-017	<2.5	<250	<LOR
FEED26-020	<2.5	<250	<LOR
FED26-021	<2.5	<250	<LOR
FED26-022	<2.5	<250	<LOR

Table 3. List of animal feeds tested for pesticides in the year 2025.

Sample ID	Pesticide Found (mg/kg)
FED25-12	<LOR
FED25-055 P	<LOR
FED25-056 P	<LOR
FED25-068 P	<LOR
FED25-070 P	<LOR
FEED25-080	<LOR
FED25-116P	<LOR
FED25-118P	<LOR
FED25-121P	<LOR
FED25-123P	<LOR
FED25-124P	<LOR
FED25-126P	<LOR
FEED26-002	<LOR
FEED26-007	<LOR
FEED26-011	<LOR
FEED26-016	<LOR

Table 4. Results of animal feeds tested for minerals and toxic elements in the year 2025. Values in red indicate results that did not pass.

Sample Number	%						mg/kg			µg/kg				
	Ca	K	Mg	Na	P	S	Cu	Fe	Zn	Mo	Cd	Hg	Pb	As
FED25-042MM	**2.8 fail**	1.2	0.38	0.02	0.9	0.26	9	172	64	1267	73	<9	97	68
FED25-047 MM	2.2	1.1	0.42	0.57	0.94	0.19	34	166	155	1237	90	4 Trace	78	55
FED25-050MM	0.74	1	0.29	0.22	0.64	0.21	40	101	147	910	39	<8	40	34
FED25-052MM	0.86	1.01	0.3	0.25	0.52	0.22	17	120	70	1789	28	<8	63	38
FED25-054MM	1.12	1.13	0.42	0.2	0.76	0.18	9	240	135	1678	94	<8	86	49
FED25-063MM	0.81	1.01	0.42	**0.19 fail**	0.54	0.24	23	118	126	954	18 Trace	<10	47	29
FED25-065 MM	0.83	0.96	0.32	0.19	0.7	0.21	30	151	128	953	68	2 Trace	42	28
FED25-067 MM	0.98	1.12	0.32	0.21	0.72	0.24	37	153	154	1118	56	9 Trace	39	31
FED25-079 MM	1.3	1.17	0.36	0.44	0.86	0.38	32	187	157	1077	82	2 Trace	79	69
FED25-084MM	**1.72 fail**	1.25	0.44	0.38	0.91	0.27	41	195	167	1350	77	9 Trace	69	63
FED25-087MM	0.99	1.31	0.44	<0.38	0.69	0.29	25	163	118	1129	66	8	54	50
FED25-090MM	1.1	1.23	0.46	0.38	0.6	0.26	27	122	115	1290	29	<8	42	48
FED25-093MM	0.87	1.25	0.47	0.34	0.76	0.28	31	169	152	1200	71	<8	48	61
FED25-096MM	1.04	1.86	0.49	0.37	0.78	0.45	31	182	134	2069	56	<7	41	35
FED25-099MM	1.3	1.7	0.41	0.54	0.53	0.39	24	137	121	1455	36	<8	57	73
FED25-106MM	0.92	1.15	0.29	0.14	0.54	0.21	17	193	143	611	58	<8	40	28
FED25-109MM	0.89	1.15	0.23	0.22	0.39	0.16	42	138	148	869	79	<9	84	49
FED25-112MM	2.43	1.07	0.54	0.62	0.96	0.21	39	234	158	1087	85	<8	109	96
FED25-128MM	1.48	1.38	0.56	0.59	0.88	0.34	39	279	180	1262	70	<8	118	48
FED25-131MM	1.33	1.18	0.42	0.41	0.74	0.29	22	149	116	1213	59	<9	43	29
FED25-133MM	0.87	1.22	0.46	**0.19 fail**	0.96	0.24	21	182	127		65	<9	48	38
FED25-136MM	0.85	1.13	0.22	0.2	0.41	0.15	45	155	159	837	62	<9	121	72
FED25-155MM	1.06	1.4	0.46	0.39	0.71	0.32	23	221	113	1296	60	<9	53	64

Table 5. List of animal feeds tested for vitamin D2 and vitamin D3 in the year 2025.

Sample ID	Ergocalciferol Vitamin D_2 (µg/kg)	Cholecalciferol Vitamin D_3 (µg/kg)
FEED26-001	<0.8	<0.8
FEED26-006	1.7	20.3
FEED26-010	<0.8	8.6
FEED26-015	1.8	24.3

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-12	Surveillance- Bovine	Lactating Mix.	Wauregan Grain Co	Wauregan Grain	Pesticides
FED25-008 MY	Dairy Cattle	Ultra 20% Dairy Pellet.	Poulin Grain Inc.	Poulin Grain	Mycotoxins
FED25-11	Surveillance- Bovine	Lactating Mix.	Wauregan Grain Co	Wauregan Grain	Aflatoxin, FUM, DON
FED25-020 My	Beef Cattle	Calf Starter Pellets.	Tractor Supply Company	Producers Pride-Dumor	Mycotoxins
FED25-023 My	Beef Cattle	High Energy 20 An Cube.	Purina Animal Nutrition LLC	Purina	Mycotoxins
FED25-043 MY	Dairy Cattle	Milker's Choice 1680.	Wauregan Grain Co	Wauregan Feeds	Mycotoxins
FED25-045 MY	Other Ruminant	Alpaca and Llama Maintenance Diet.	PMI Nutritional, LLC	Mazuri	Mycotoxins
FED25-048 MY	Beef Cattle	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Mycotoxins
FED25-057 MY	Other Ruminant	Whole Corn.	Nova Grain	N/A	Mycotoxins
FED25-059 MY	Other Ruminant	Mazuri Llama Diet High Fiber, Coarse.	Mazuri, a brand of PMI Nutrition Int'l., LLC	Mazuri	Mycotoxins
FED25-061 MY	Other Ruminant	Northeast Alpaca & Llama Milk & Cria Pellet.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-069 MY	Other Ruminant	Cracked Corn.	N/A	N/A	Mycotoxins
FED25-072 MY	Other Ruminant	Llama/Alpaca Pellet.	Kent Nutrition Group, Inc	Field & Farm	Mycotoxins
FED25-074 MY	Other Ruminant	Alpaca & Llama Crunch Textured.	Kent Nutrition Group, Inc	Blue Seal Home Fresh	Mycotoxins
FED25-076 MY	Other Ruminant	Alpaca Complete Life.	PMI Nutrition International, LLC	Mazuri	Mycotoxins
FED25-078 MY	Dairy Cattle	Milk-Maker 16.	Kent Nutrition Group, Inc	Blue Seal	Mycotoxins
FEED25-081	Bovine	Whole Corn.	Spring Brook Farm	N/A	Aflatoxin, FUM, DON
FED25-024	Dog Treat	America's VetDogs Skin and Coat Formula.	Kelly Food Corp.	Bil Jac	Proximate Analysis
FED25-026	Dog Treat	Pumpkin Harvest oven baked with apple.	Emerald Pet Products	Emerald Pet	Proximate Analysis

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-027	Cat Treat	Meow Fulls Freeze Dried Raw Treats.	Stella & Chewy's LLC.	Stella & Chewy's	Proximate Analysis
FED25-028	Dog Treat	Training Treats.	J&C Pet Supply LLC.	Clifford The Big Red Dog	Proximate Analysis
FED25-029	Dog Treat	Soft Baked Biscuits Bananas for Bacon.	Shameless Pets Inc.	Shameless Pets	Proximate Analysis
FED25-030	Dog Food	Bison Meal and Rice.	Midwestern Pet Foods Inc.	Ultimates	Proximate Analysis
FED25-031	Cat Food	Mers Feline Multi Cat Chicken Meal and Beef Meal Recipe.	Mid America Pet Food LLC.	Victor	Proximate Analysis
FED25-032	Cat Food	Pickins Mixed Grill Dinner.	PSP Distribution, LLC	Mitten's	Proximate Analysis
FED25-033	Dog Food	Grain Free Chicken Recipe.	PSP Distribution, LLC	Redford Naturals	Proximate Analysis
FED25-034	Dog Food	Senior and Weight Management Dinner.	Evanger's Pet Food Co., Inc.	Evanger's	Proximate Analysis
FED25-036	Dog Food	Chopped Supper with Chicken & Beef.	PSP Distribution, LLC	Hartwick Fields	Proximate Analysis
FED25-037	Cat Food	Paw Lickin' Chicken Chicken Recipe in Gravy.	Weruva International, INC.	Weruva	Proximate Analysis
FED25-038	Cat Food	Pro Plan Compete Essentials Salmon Entrée.	Nestle Purina Pet Care Canada	Purina	Proximate Analysis
FED25-039	Dog Treat	Original Recipe Dog Treat Made with Fresh Chicken Liver.	Kelly Food Corp.	Bil Jac	Proximate Analysis
FED25-040	Dog Food	Beneful chopped blends with beef, carrots, peas and barley.	Nestle Purina PetCare Company	Purina	Proximate Analysis
FED25-041 PA	Dairy Cattle	Milker's Choice 1680. ,	Wauregan Grain Co	Wauregan Feeds	Proximate Analysis
FED25-044 PA	Other Ruminant	Alpaca and Llama Maintenance Diet.	PMI Nutritional, LLC	Mazuri	Proximate Analysis
FED25-046 PA	Beef Cattle	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Proximate Analysis
FED25-049 PA	Goat	Goat Sweet Feed.	Tractor Supply Company	Dumor	Proximate Analysis
FED25-053 PA	Sheep	Sheep & Goat DX (Medicated Feed).	Tractor Supply Company	Dumor	Proximate Analysis

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Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-058 PA	Other Ruminant	Mazuri Llama Diet High Fiber, Coarse.	Mazuri, a brand of PMI Nutrition Int'l., LLC	Mazuri	Proximate Analysis
FED25-062 PA	Goat	County Feeds Goat 17% Textured Feed.	Nutrena	Nutrena	Proximate Analysis
FED25-064 PA	Goat	Country Feeds Goat 16% Pellet Medicated.	Nutrena	Nutrena	Proximate Analysis
FED25-066 PA	Goat	Country Feeds Goat 16% Pellet	Nutrena	Nutrena	Proximate Analysis
FED25-071 PA	Other Ruminant	Llama/Alpaca Pellet.	Kent Nutrition Group, Inc	Field & Farm	Proximate Analysis
FED25-073 PA	Other Ruminant	Alpaca & Llama Crunch Textured.	Kent Nutrition Group, Inc	Blue Seal Home Fresh	Proximate Analysis
FED25-075 PA	Other Ruminant	Alpaca Complete Life.	PMI Nutrition International, LLC	Mazuri	Proximate Analysis
FED25-077 PA	Dairy Cattle	Milk-Maker 16.	Kent Nutrition Group, Inc	Blue Seal	Proximate Analysis
FED25-047 MM	Beef Cattle	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Macro Minerals
FED25-065 MM	Goat	Country Feeds Goat 16% Pellet Medicated.	Nutrena	Nutrena	Macro Minerals
FED25-067 MM	Goat	Country Feeds Goat 16% Pellet	Nutrena	Nutrena	Macro Minerals
FED25-079 MM	Dairy Cattle	Milk-Maker 16.	Kent Nutrition Group, Inc	Blue Seal	Macro Minerals
FED25-042MM	Dairy Cattle	Milker's Choice 1680.	Wauregan Grain Co	Wauregan Feeds	Macro Minerals/Contaminants
FED25-050MM	Goat	Goat Sweet Feed.	Tractor Supply Company	Dumor	Macro Minerals
FED25-063MM	Goat	County Feeds Goat 17% Textured Feed.	Nutrena	Nutrena	Macro Minerals
FED25-090MM	Bovine (Dairy)	Poulin Grain Ultra 20% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-093MM	Bovine (Dairy)	Poulin Opti-Heif RP Pelleted Heifer Feed.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-096MM	Bovine (Beef)	Poulin Cattle 40 Show Pellet.	Poulin Grain, INC	Poulin	Macro Minerals

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-099MM	Bovine (Dairy)	Opti-CAF Textured Calf Starter Medicated.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-106MM	Bovine (Beef)	Nutrebeef Grower/Finisher Textured.	Nutrena	Nutrena	Macro Minerals
FED25-109MM	Bovine (Beef)	Purina Precon Cattle Starter.	Purina Animal Nutrition LLC	Purina	Macro Minerals
FED25-128MM	Bovine (Dairy)	Milk Maker 20.	Kent Nutrition Group, Inc.	Blue Seal	Macro Minerals/ Contaminants
FED25-052MM	Goat	Goat Pellets (Organic).	Kreamer Feed, Inc	Nature's Best	Macro Minerals
FED25-054MM	Sheep	Sheep & Goat DX (Medicated Feed).	Tractor Supply Company	Dumor	Macro Minerals
FED25-084MM	Bovine (Dairy)	Poulin Grain High Line 16% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-087MM	Bovine (Beef)	Poulin Grain Textra 16% Dairy/Beef Feed.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-112MM	Bovine (Beef)	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Macro Minerals
FED25-131MM	Bovine (Dairy)	Energizer 20.	Kent Nutrition Group, Inc.	Blue Seal	Macro Minerals/ Contaminants
FED25-133MM	Bovine (Dairy)	Calf Starter Dairy.	Tractor Supply Company	Producers Pride	Macro Minerals
FED25-136MM	Bovine (Beef)	Precon Complete Beef.	Purina Animal Nutrition LLC	Purina	Macro Minerals
FED25-155MM	Bovine (Beef)	Poulin Grain Textra 18% Dairy/Beef Feed.	Poulin Grain, INC	Poulin	Macro Minerals
FED25-085MY	Bovine (Dairy)	Poulin Grain High Line 16% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-088MY	Bovine (Beef)	Poulin Grain Textra 16% Dairy/Beef Feed.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-091MY	Bovine (Dairy)	Poulin Grain Ultra 20% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-094MY	Bovine (Dairy)	Poulin Opti-Heif RP Pelleted Heifer Feed.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-097MY	Bovine (Beef)	Poulin Cattle 40 Show Pellet.	Poulin Grain, INC	Poulin	Mycotoxins

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-100MY	Bovine (Dairy)	Opti-CAF Textured Calf Starter Medicated.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-102MY	Llama/Alpaca	Llama & Alpaca 14% Pellet.	Nutrena	Nutrena	Mycotoxins
FED25-104MY	Llama/Alpaca	Llama & Alpaca 15% Textured Feed.	Nutrena	Nutrena	Mycotoxins
FED25-107MY	Bovine (Beef)	Nutrebeef Grower/Finisher Textured.	Nutrena	Nutrena	Mycotoxins
FED25-110MY	Bovine (Beef)	Purina Precon Cattle Starter.	Purina Animal Nutrition LLC	Purina	Mycotoxins
FED25-113MY	Bovine (Beef)	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Mycotoxins
FED25-115MY	Llama/Alpaca	Llama and Alpaca Feed 14% Pellet.	Nutrena	Country Feeds	Mycotoxins
FED25-117MY	Other Ruminant	Non-gmo Corn.	N/A	N/A	Mycotoxins
FED25-120MY	Llama/Alpaca	Llama and Alpaca Concentrated Pellet.	Kalmbach Feeds, Inc.	Kalmbach Feeds	Mycotoxins
FED25-122MY	Other Ruminant	Cracked Corn.	N/A	N/A	Mycotoxins
FED25-125MY	Other Ruminant	Cracked Corn.	N/A	N/A	Mycotoxins
FED25-129MY	Bovine (Dairy)	Milk Maker 20.	Kent Nutrition Group, Inc.	Blue Seal	Mycotoxins
FED25-132MY	Bovine (Dairy)	Energizer 20.	Kent Nutrition Group, Inc.	Blue Seal	Mycotoxins
FED25-134MY	Bovine (Dairy)	Calf Starter Dairy.	Tractor Supply Company	Producers Pride	Mycotoxins
FED25-137MY	Bovine (Beef)	Precon Complete Beef.	Purina Animal Nutrition LLC	Purina	Mycotoxins
FED25-156MY	Bovine (Beef)	Poulin Grain Textra 18% Dairy/Beef Feed.	Poulin Grain, INC	Poulin	Mycotoxins
FED25-055 P	Other Ruminant	Soybean Meal.	N/A	N/A	Pesticides
FED25-056 P	Other Ruminant	Whole Corn.	Nova Grain	N/A	Pesticides
FED25-068 P	Other Ruminant	Cracked Corn.	N/A	N/A	Pesticides
FED25-070 P	Other Ruminant	Soybean Meal.	N/A	N/A	Pesticides

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FEED25-080	Bovine	Whole Corn.	Spring Brook Farm	N/A	Pesticides
FED25-116P	Other Ruminant	Non-gmo Corn.	N/A	N/A	Pesticides
FED25-118P	Other Ruminant	Non-gmo Soybean Meal.	N/A	N/A	Pesticides
FED25-121P	Other Ruminant	Cracked Corn.	N/A	N/A	Pesticides
FED25-123P	Other Ruminant	Soybean Meal.	N/A	N/A	Pesticides
FED25-124P	Other Ruminant	Cracked Corn.	N/A	N/A	Pesticides
FED25-126P	Other Ruminant	Soybean Meal.	N/A	N/A	Pesticides
FEED26-004	Investigational-Dog	Forza 10 Renal Support with Lamb Canine Formula.	SANY Pet Spa	Forza 10	Toxic Metals
FEED26-009	Investigational-Dog	Mix of Salmon and Rice Formula with Sensitive Skin and Stomach Formula.	Nestle Purina Pet Care Company	Purina	Toxic Metals
FEED26-013	Investigational-Dog	Purina Pro Plan Adult Salmon and Rice Formula.	Nestle Purina Pet Care Company	Purina	Toxic Metals
FEED26-018	Investigational-Dog	Purina Pro Plan Adult Sensitive Skin & Stomach Small Breef Salmon & Rice Formula.	Nestle Purina Pet Care Company	Purina	Toxic Metals
FEED26-001	Investigational-Dog	Forza 10 Renal Support with Lamb Canine Formula.	SANY Pet Spa	Forza 10	Vitamin D
FEED26-003	Investigational-Dog	Forza 10 Renal Support with Lamb Canine Formula.	SANY Pet Spa	Forza 10	Mycotoxins
FEED26-006	Investigational-Dog	Mix of Salmon and Rice Formula with Sensitive Skin and Stomach Formula.	Nestle Purina Pet Care Company	Purina	Vitamin D
FEED26-008	Investigational-Dog	Mix of Salmon and Rice Formula with Sensitive Skin and Stomach Formula.	Nestle Purina Pet Care Company	Purina	Mycotoxins
FEED26-010	Investigational-Dog	Purina Pro Plan Adult Salmon and Rice Formula.	Nestle Purina Pet Care Company	Purina	Vitamin D
FEED26-012	Investigational-Dog	Purina Pro Plan Adult Salmon and Rice Formula.	Nestle Purina Pet Care Company	Purina	Mycotoxins

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FEED26-015	Investigational-Dog	Purina Pro Plan Adult Sensitive Skin & Stomach Small Breef Salmon & Rice Formula.	Nestle Purina Pet Care Company	Purina	Vitamin D
FEED26-017	Investigational-Dog	Purina Pro Plan Adult Sensitive Skin & Stomach Small Breef Salmon & Rice Formula.	Nestle Purina Pet Care Company	Purina	Mycotoxins
FEED26-002	Investigational-Dog	Forza 10 Renal Support with Lamb Canine Formula.	SANY Pet Spa	Forza 10	Pesticides
FEED26-007	Investigational-Dog	Mix of Salmon and Rice Formula with Sensitive Skin and Stomach Formula.	Nestle Purina Pet Care Company	Purina	Pesticides
FEED26-011	Investigational-Dog	Purina Pro Plan Adult Salmon and Rice Formula.	Nestle Purina Pet Care Company	Purina	Pesticides
FEED26-016	Investigational-Dog	Purina Pro Plan Adult Sensitive Skin & Stomach Small Breef Salmon & Rice Formula.	Nestle Purina Pet Care Company	Purina	Pesticides
FEED26-014	Investigational-Dog	Purina Pro Plan Adult Salmon and Rice Formula.	Nestle Purina Pet Care Company	Purina	Proximate Analysis
FEED26-019	Investigational-Dog	Purina Pro Plan Adult Sensitive Skin & Stomach Small Breef Salmon & Rice Formula.	Nestle Purina Pet Care Company	Purina	Proximate Analysis
FED25-025	Cat	Freeze-Dried Raw Harvest Chicken Recipe.	Open Farm Inc.	Open Farm	Proximate Analysis
FED25-051 PA	Goat	Goat Pellets (Organic).	Kreamer Feed, Inc	Nature's Best	Proximate Analysis
FED25-060 PA	Other Ruminant	Northeast Alpaca & Llama Milk & Cria Pellet.	Poulin Grain, INC	Poulin	Proximate Analysis
FEED25-082	Other Ruminant	Wauregan Layer.	Wauregan Grain Company	Waregan Grain Company	Proximate Analysis
FED25-083PA	Bovine (Dairy)	Poulin Grain High Line 16% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Proximate Analysis
FED25-086PA	Bovine (Beef)	Poulin Grain Textra 16% Dairy/Beef Feed.	Poulin Grain, INC	Poulin	Proximate Analysis
FED25-089PA	Bovine (Dairy)	Poulin Grain Ultra 20% Dairy/Beef Pellet.	Poulin Grain, INC	Poulin	Proximate Analysis
FED25-092PA	Bovine (Dairy)	Poulin Opti-Heif RP Pelleted Heifer Feed.	Poulin Grain, INC	Poulin	Proximate Analysis

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-095PA	Bovine (Beef)	Poulin Cattle 40 Show Pellet.	Poulin Grain, INC	Poulin	Proximate Analysis
FED25-098PA	Bovine (Dairy)	Opti-CAF Textured Calf Starter Medicated.	Poulin Grain, INC	Poulin	Proximate Analysis
FED25-101PA	Llama/Alpaca	Llama & Alpaca 14% Pellet.	Nutrena	Nutrena	Proximate Analysis
FED25-103PA	Llama/Alpaca	Llama & Alpaca 15% Textured Feed.	Nutrena	Nutrena	Proximate Analysis
FED25-105PA	Bovine (Beef)	Nutrebeef Grower/Finisher Textured.	Nutrena	Nutrena	Proximate Analysis
FED25-108PA	Bovine (Beef)	Purina Precon Cattle Starter.	Purina Animal Nutrition LLC	Purina	Proximate Analysis
FED25-111PA	Bovine (Beef)	4-Square Stocker/Grower 14.	Purina Animal Nutrition LLC	Purina	Proximate Analysis
FED25-114PA	Llama/Alpaca	Llama and Alpaca Feed 14% Pellet.	Nutrena	Country Feeds	Proximate Analysis
FED25-119PA	Llama/Alpaca	Llama and Alpaca Concentrated Pellet.	Kalmbach Feeds, Inc.	Kalmbach Feeds	Proximate Analysis
FED25-127PA	Bovine (Dairy)	Milk Maker 20.	Kent Nutrition Group, Inc.	Blue Seal	Proximate Analysis
FEED26-020	Other Ruminant	20% Co-AG Pellet.	Pleasant View Farms INC	Pleasant View	Mycotoxins
FED26-021	Pig	Corn.	Titan Feeds	Titan Feeds	Mycotoxins
FED26-022	Poultry	Poultry Layer Feed.	Titan Feeds	Titan Feeds	Mycotoxins
FED25-139MY	Dog -Wet	Wally's Salmon and Rice Homestyle Dog Meal.	Portland Pet Food Company	Portland Pet Food Company	Proximate Analysis
FED25-141MY	Dog -Wet	Pork Recipe.	Pets Global, Inc.	Inception	Proximate Analysis
FED25-142MY	Cat-Wet	Naturally Healthy Grain Free Formula.	Dave's Pet Food	Dave's Pet Food	Proximate Analysis
FED25-143MY	Dog -Wet	Chicken & Turkey Recipe.	Merrick Pet Care, Inc.	Whole Earth farms	Proximate Analysis
FED25-144MY	Dog -Wet	Classic Cuts in Gravy.	Pet Lover's Soul, LLC.	Chicken Soup for the Soul	Proximate Analysis
FED25-145MY	Cat-Wet	Fisherman's Stew.	Dave's Pet Food	Dave's Naturally Healthy Food	Proximate Analysis

Appendix: Description of animal feed products analyzed for different analytes in 2025.

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED25-146MY	Cat-Wet	Beef and Salmon Best Day Eva! Dinner in Gravy.	Weruva International, Inc.	B.F.F. OMG!	Proximate Analysis
FED25-147MY	Cat-Wet	Trout Feast Flaked.	Nestle Purina Pet Care Company	Fancy Feast	Proximate Analysis
FED25-148MY	Cat-Wet	Beef and Salmon Recipe in Broth.	Health Extension Pet Care	Holistic Health Extension	Proximate Analysis

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