

# Analysis of Animal Feed Products Sold in Connecticut During 2024

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*The Connecticut Agricultural Experiment Station  
New Haven, CT*



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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 Department of Agriculture'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 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).

## METHODS

In calendar year 2024, The Department of Analytical Chemistry at The Connecticut Agricultural Experiment Station analyzed 36 animal feed products for label guarantees, 53 products for the presence of mycotoxins (aflatoxins, deoxynivalenol, and fumonisin), 23 samples for pesticides analysis, 26 samples for macro minerals and toxic metals that were for sale in Connecticut. Animal feeds were collected by Department of Agriculture'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 The Connecticut Agricultural Experiment Station, 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 (5). Briefly, protein is calculated based on the total nitrogen determined using a Leco combustion instrument. Fat is determined gravimetrically using solvent extraction either with or without acid hydrolysis depending on the 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 were extracted using 80% acetonitrile in water, followed by solid phase extraction with cartridges specific to aflatoxin B1, B2, G1, and G2. Analytes are then eluted using methanol. Aflatoxin analysis was performed using liquid chromatography with high resolution mass spectroscopy (LC-HRMS).

Deoxynivalenol and fumonisin 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 nutrients (Ca, K, Mg, Na, P, Cu, Fe, Mo, and Zn), and toxic elements (As, Cd, Hg, 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).

All results are submitted to the Department of Agriculture for possible regulatory response.

## 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 range is equal to or exceeds the allowed variability to the label, the sample passes. For fiber, if the lower end of the range is below or equal to, the allowed variability to the label, the sample passes.

No sample was found to be deficient in Protein, Fat or Fiber in 2024.

### Aflatoxins, Deoxynivalenol, and Fumonisin

Animal feed products analyzed for mycotoxins in 2024 are shown in Table 2.

All 53 animal feed products tested for aflatoxin B1, B2, G1, and G2 were below the reporting limit of 1  $\mu\text{g}/\text{kg}$ . 52 of the 53 samples tested for fumonisin B1, B2, and B3 were below the reporting limit of 1000

$\mu\text{g}/\text{kg}$ , 400  $\mu\text{g}/\text{kg}$ , and 200  $\mu\text{g}/\text{kg}$ , respectively. Only 1 product tested was found to contain fumonisin B1 above the reporting limit but below the FDA guidance level for total fumonisin. Conversely, 22 samples (42%) were found to contain deoxynivalenol above the reporting limit of 500  $\mu\text{g}/\text{kg}$ . Additionally, 1 sample of the 22 positive samples was found to contain deoxynivalenol above the FDA guidance of 5000  $\mu\text{g}/\text{kg}$ .

### Pesticides

For the 2024 calendar year, 22 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 26 animal feeds were analyzed for their elemental composition. These results can be found in Table 4. No sample was found to be deficient when compared to the claimed label guarantee. Animal feed products are reported as unsatisfactory based on guidelines established by AAFCO (6).

**Table 1. A comparison between label guarantees (G) and analytical results (R) for animal feeds tested during the 2024 calendar year. Values in red indicate results that did not pass. Results in %.**

Sample ID	Protein		Fat		Fiber	
	G	R	G	R	G	R
FED23-0126P	40	48.3	18	15.4	3	1.4
FED24-023	13	16.1	1.5	2.4	27	23.5
FED24-025	14	14.5	2	3.6	22	16.1
FED24-027	14	15.2	12	19.8	12	8.2
FED24-029	38	37	18	23	3.5	1.3
FED24-031	13	13.3	6.5	7.4	9	7.6
FED24-042	9.5	10.5	3	4.4	7	7.8
FED24-043	12	12.4	4	3.9	10	5.9
FED24-045	12	15.6	2	3.3	8	4.8
FED24-053	18	18.9	2.5	3.5	8	5.8
FED24-055	18	19.9	2.7	4.6	5	4.8
FED24-057	22	23	3.5	3.3	6	4
FED24-059	21	22.1	3	3.7	5	5.2
FED24-061	16	17.1	2	3.4	10	5.8
FED24-063	16.5	17.3	3	4.1	4	3.4
FED24-065	16	17.1	2.5	4.9	6.5	2.7
FED24-067	16	17.3	1.5	3.9	10	6.7

**Table 1. A comparison between label guarantees (G) and analytical results (R) for animal feeds tested during the 2024 calendar year, continued. Values in red indicate results that did not pass. Results in %.**

Sample ID	Protein		Fat		Crude Fiber	
	G	R	G	R	G	R
FED24-086 PA	8	10.5	2.5	4.8	1.5	0.13
FED24-090 PA	18	20.5	9.5	12.1	4	0.49
FED24-094 PA	19	20.9	10	13.1	3.4	0.81
FED24-102	15	15.9	3	3.7	4	4.5
FED24-107	18	17.1	4	4.1	5.5	3.6
FED24-109	19	20.7	2.3	3.1	5	3.4
FED24-111	16	17.5	2.5	2.3	7	4.3
FED24-113	18	19.8	3	5.9	7	5.9
FED24-115	20	21	3.5	3.2	4	3
FED24-117	20	21.3	3.5	3.3	5	2.7
FED24-135	12.5	15.6	7	8.6	3	1.2
FED25-004 PA	18	18.5	3	4	9	5.3
FED25-006 PA	18	18.8	3.5	4.4	18	13.4
FED25-009 PA	20	20.6	3.5	4.4	8	4.4
FED25-10	33.82	31.2	6.57	6	N/A*	3.7
FED25-14 PA	16	16.5	2	2.8	16	13.1
FED25-016 PA	16	16.8	2	2.9	16	11.4
FED25-018 PA	16.2	15.7	1.8	2.9	12.5	12.7
FED25-021 PA	20	21.1	1	3.1	12	6.8

\*The acid detergent fiber was guaranteed at 6.32%, the laboratory only analyzes crude fiber

**Table 2. List of animal feeds tested for Aflatoxins B1, B2, G1, and G2; Deoxynivalenol; and Fumonisin FB1, FB2, and FB3 in the year 2024. Results in µg/kg.**

Sample ID	Total Aflatoxins	Deoxynivalenol	Total Fumonisin
FED24-004	<1	<500	<LOR
FED24-005	<1	<500	<LOR
FED24-006	<1	<500	<LOR
FED24-007	<1	<500	<LOR
FED24-008	<1	1262	<LOR
FED24-010	<1	<500	<LOR
FED24-011	<1	<500	<LOR
FED24-012	<1	<500	<LOR
FED24-013	<1	<500	<LOR
FED24-014	<1	<500	<LOR
FED24-015	<1	543	<LOR
FED24-016	<1	<500	<LOR
FED24-017	<1	<500	<LOR
FED24-018	<1	<500	<LOR
FED24-019	<1	<500	<LOR
FED24-020	<1	<500	<LOR
FED24-021	<1	<500	<LOR
FED24-032	<1	<500	<LOR
FED24-033	<1	<500	<LOR
FED24-034	<1	<500	<LOR
FED24-035	<1	678	<LOR
FED24-036	<1	<500	<LOR
FED24-037	<1	<500	<LOR
FED24-038	<1	<500	<LOR
FED24-039	<1	991	<LOR
FED24-040	<1	<500	<LOR
FED24-041	<1	<500	<LOR
FED24-044	<1	<500	<LOR
FED24-050	<1	<500	<LOR

**Table 2. List of animal feeds tested for Aflatoxins B1, B2, G1, and G2; Deoxynivalenol; and Fumonisin FB1, FB2, and FB3 in the year 2024, continued. Results in  $\mu\text{g}/\text{kg}$ .**

Sample ID	Total Aflatoxins	Deoxynivalenol	Total Fumonisin
FED24-051	<1	<500	<LOR
FED24-052	<1	<500	<LOR
FED24-077 A	<1	2875	<LOR
FED24-078 A	<1	2819	<LOR
FED24-080	<1	3592	<LOR
FED24-082	<1	1533	<LOR
FED24-084A	<1	<500	<LOR
FED24-088A	<1	<500	<LOR
FED24-092A	<1	<500	<LOR
FED24-099	<1	1783	<LOR
FED24-101	<1	5159	1476
FED24-104	<1	2259	<LOR
FED24-106	<1	1523	<LOR
FED24-120	<1	1420	<LOR
FED24-122	<1	1590	<LOR
FED24-124	<1	18900	<LOR
FED24-126	<1	1390	<LOR
FED24-128	<1	2640	<LOR
FED24-130	<1	1630	<LOR
FED24-132	<1	1840	<LOR
FED24-134	<1	3460	<LOR
FED24-137	<1	<500	<LOR
FED24-140	<1	3430	<LOR
FED24-142	<1	1820	<LOR

**Table 3. List of animal feeds tested for pesticides in the year 2024.**

<b>Sample ID</b>	<b>Pesticide Found (mg/kg)</b>
<b>FED24-009</b>	<0.01
<b>FED24-077 B</b>	<0.01
<b>FED24-078 B</b>	<0.01
<b>FED24-079</b>	<0.01
<b>FED24-081</b>	<0.01
<b>FED24-085 P</b>	<0.01
<b>FED24-089 P</b>	<0.01
<b>FED24-098</b>	<0.01
<b>FED24-100</b>	<0.01
<b>FED24-103</b>	<0.01
<b>FED24-105</b>	<0.01
<b>FED24-119</b>	<0.01
<b>FED24-121</b>	<0.01
<b>FED24-123</b>	<0.01
<b>FED24-125</b>	<0.01
<b>FED24-127</b>	<0.01
<b>FED24-129</b>	<0.01
<b>FED24-131</b>	<0.01
<b>FED24-133</b>	<0.01
<b>FED24-138</b>	<0.01
<b>FED24-139</b>	<0.01
<b>FED24-141</b>	<0.01

**Table 4. Results of animal feeds tested for minerals and toxic metals in the year 2024. Values in red indicate results that did not pass.**

Sample Number	%						mg/kg				µg/kg			
	Ca	K	Mg	Na	P	S	Cu	Fe	Mo	Zn	Cd	Hg	Pb	As
FED24-022	0.63	1.38	0.28	0.18	0.35	0.21	11	386	NR	52	66	<19	754	199
FED24-024	0.94	1.19	0.24	0.26	0.87	0.29	13	363	NR	70	218	<20	155	106
FED24-026	0.23	0.52	0.16	0.01	0.47	0.15	7	65	NR	34	104	<17	<17	21
FED24-028	1.17	0.57	0.11	0.26	1.14	0.45	29	188	NR	121	62	<19	132	44
FED24-030	0.63	0.69	0.16	0.06	0.39	0.14	10	153	NR	44	82	<17	125	61
FED24-054	1.52	0.90	0.30	0.14	0.79	0.23	18	181	NR	117	52	<17	72	45
FED24-056	0.96	0.95	0.26	0.18	0.75	0.22	24	228	NR	117	67	<16	58	95
FED24-058	3.30	0.91	0.31	0.28	0.91	0.30	20	346	NR	97	104	<17	166	274
FED24-060	1.16	1.08	0.31	0.15	0.92	0.26	20	236	NR	124	74	<20	60	113
FED24-062	3.22	0.88	0.44	0.12	0.92	0.21	10	193	NR	85	64	<18	159	96
FED24-064	3.57	0.79	0.25	0.21	0.63	0.22	18	152	NR	92	51	<19	59	46
FED24-066	3.33	0.78	0.22	0.19	0.77	0.20	12	418	NR	89	68	<19	156	187
FED24-068	2.90	1.00	0.42	0.12	0.99	0.23	16	173	NR	90	82	<19	104	57
FED24-108	3.85	0.78	0.18	0.13	0.58	0.20	13	251	NR	100	66	<23	148	112
FED24-110	0.92	0.93	0.20	0.10	0.60	0.23	19	144	NR	148	60	<18	80	54
FED24-112	3.84	0.75	0.23	0.12	0.56	0.26	13	251	NR	97	122	<19	247	525
FED24-114	0.92	0.68	0.23	0.14	0.68	0.29	10	144	NR	107	73	<18	89	57
FED24-116	0.84	0.87	0.22	0.16	0.69	0.21	17	243	NR	99	95	<18	95	90

**Table 4. Results of animal feeds tested for minerals and toxic metals in the year 2024, continued. Values in red indicate results that did not pass.**

Sample Number	%						mg/kg				µg/kg			
	Ca	K	Mg	Na	P	S	Cu	Fe	Mo	Zn	Cd	Hg	Pb	As
FED24-118	1.12	0.89	0.16	0.13	0.58	0.27	13	136	NR	97	84	<19	80	157
FED25-003 MM	1.18	1	0.43	0.32	0.64	0.27	21	366	1.3	110	59	<2.3	176	102
FED25-005 MM	1.14	1.15	0.31	0.35	0.54	0.21	19.7	166	1.1	88	55	<3.6	68	36
FED25-007 MM	0.9	1.1	0.38	0.29	0.64	0.26	27.7	119	1.3	131	39	<2	78	48
FED25-015 MM	0.98	1	0.67	0.15	0.8	0.18	23.5	209	1	115	90	<1	96	49
FED25-017 MM	1.4	1	0.43	0.18	0.8	0.2	32.8	498	0.9	165	84	<1	81	62
FED25-019 MM	1	1.1	0.38	0.29	0.81	0.2	18.1	165	0.8	118	87	<1	46	40
FED25-022 MM	2.4	1.35	0.37	0.78	1	0.35	64	270	2.7	263	90	<2	138	122

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED24-005	Equine	Safechoice Special Care	Nutrena	Nutrena	Aflatoxin, FUM, DON
FED24-006	Equine	Miniature Horse and Pony	Purina Animal Nutrition LLC	Purina	Aflatoxin, FUM, DON
FED24-004	Equine	Senior Active Plus	Triple Crown	Triple Crown	Aflatoxin, FUM, DON
FED24-007	Equine	Maintenance	Tractor Supply Company	Dumor	Aflatoxin, FUM, DON
FED24-008	Other Ruminant	Soybean Meal	Landus Cooperative		Aflatoxin, FUM, DON
FED24-010	Equine	Equine Senior Active	Purina Animal Nutrition LLC	Purina	Aflatoxin, FUM, DON
FED24-011	Equine	Proforce Fuel (AL)	Nutrena	Nutrena	Aflatoxin, FUM, DON
FED24-022	Small Animal	Timothy Complete Rabbit Food	Kaytee Products, Inc.	Kaytee	Macro Minerals/ Contaminants
FED24-024	Small Animal	Guinea Pig	The Higgins Group Corp.	Higgins - Sunburst	Macro Minerals/ Contaminants
FED24-026	Small Animal	Hamster-Gerbil Fortified Daily Diet	F.M. Brown's Sons Inc.	Brown's Tropical Carnival	Macro Minerals/ Contaminants
FED24-028	Small Animal	Premium Ferret Diet	Marshall Pet Products, Inc.	Marshall	Macro Minerals/ Contaminants
FED24-030	Small Animal	Pure Hamster Food	Laroy Group Inc.	White Mill	Macro Minerals/ Contaminants
FED24-038	Equine	Flourish 14% Pellet	Mid States Distributing LLC	Country Companion	Aflatoxin, FUM, DON
FED24-039	Equine	Nutrena Empower Topline Balance	Nutrena	Nutrena	Aflatoxin, FUM, DON
FED24-018	Cat -Dry	Chicken and Fish Recipe	The Honest Kitchen, Inc.	The Honest Kitchen	Aflatoxin, FUM, DON
FED24-019	Cat -Dry	Tender Centers	Big Heart Pet Brands, Inc.	Meow Mix	Aflatoxin, FUM, DON
FED24-012	Cat -Dry	Chicken and Salmon Recipe	Nulo, Inc.	Nulo	Aflatoxin, FUM, DON
FED24-013	Cat -Dry	Proactive Health - Healthy Kitten	Mars Petcare US	Iams	Aflatoxin, FUM, DON

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
<b>FED24-014</b>	Cat -Dry	Adult - Weight Control. Chicken and Rice Formula	Vetdiet International Inc.	VetDiet	Aflatoxin, FUM, DON
<b>FED24-015</b>	Cat -Dry	Friskies - Tender and Crunchy Combo	Nestle Purina PetCare	Purina	Aflatoxin, FUM, DON
<b>FED24-016</b>	Cat -Dry	Chicken Recipe.	MPM Products USA Inc.	Reveal	Aflatoxin, FUM, DON
<b>FED24-017</b>	Cat -Dry	Duck Duck Goose Recipe - Dinner Morsels	Stella and Chewy's LLC	Stella and Chewy's	Aflatoxin, FUM, DON
<b>FED24-020</b>	Cat -Dry	Cat Chow - Naturals	Nestle Purina PetCare Company	Purina	Aflatoxin, FUM, DON
<b>FED24-021</b>	Cat -Dry	Adult Cat Weight and Hairball Control	Blue Buffalo Company, Ltd.	Blue Buffalo - Tastefuls	Aflatoxin, FUM, DON
<b>FED24-032</b>	Equine	Inspire Hay Stretcher Small Pellet	Kent Nutrition Group Inc	Blue Seal	Aflatoxin, FUM, DON
<b>FED24-033</b>	Equine	Balancer	Triple Crown	Triple Crown	Aflatoxin, FUM, DON
<b>FED24-034</b>	Equine	Safechoice Mare & Foal	Nutrena	Nutrena	Aflatoxin, FUM, DON
<b>FED24-035</b>	Equine	Stock and Stable 12% Pelleted Horse Feed	Nutrena	Nutrena	Aflatoxin, FUM, DON
<b>FED24-036</b>	Equine	Aspire 12% Maintenance Equine Textured	Mid States Distributing LLC	Country Companion	Aflatoxin, FUM, DON
<b>FED24-037</b>	Equine	Endeavor Complete Equine Pellet	Mid States Distributing LLC	Country Companion	Aflatoxin, FUM, DON
<b>FED24-040</b>	Equine	Senior Equine	Mid States Distributing LLC	Country Companion	Aflatoxin, FUM, DON
<b>FED24-041</b>	Equine	Proforce Senior	Nutrena	Nutrena	Aflatoxin, FUM, DON
<b>FED24-044</b>	Equine	RepleniMash	Purina Animal Nutrition LLC	Purina	Aflatoxin, FUM, DON
<b>FED24-050</b>	Equine	Sentinel Senior	Kent Nutrtrion Group	Blue Seal	Aflatoxin, FUM, DON
<b>FED24-051</b>	Equine	Care Carb-Guard	Kent Nutrtrion Group	Sentinel	Aflatoxin, FUM, DON
<b>FED24-052</b>	Equine	Triumph - Professional Pellet	Nutrena	Nutrena	Aflatoxin, FUM, DON

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
<b>FED24-077 A</b>	Animal Feed - Other Ruminant	Soybean Meal	Incobraska Industries LTD		Mycotoxins
<b>FED24-078 A</b>	Animal Feed - Other Ruminant	Corn	Pugh Farms		Mycotoxins
<b>FED23-126P</b>	Cat -Dry	Rocky Mountain Feline Recipe	Taste of the Wild	Taste of the Wild	Proximate Analysis
<b>FED24-077 B</b>	Animal Feed - Other Ruminant	Soybean Meal	Incobraska Industries LTD		Pesticides
<b>FED24-078 B</b>	Animal Feed - Other Ruminant	Corn	Pugh Farms		Pesticides
<b>FED24-079</b>	Other Ruminant	Whole Corn			Pesticides
<b>FED24-080</b>	Other Ruminant	Whole Corn			Mycotoxins
<b>FED24-081</b>	Other Ruminant	Soybean Meal			Pesticides
<b>FED24-082</b>	Other Ruminant	Soybean Meal			Mycotoxins
<b>FED24-084A</b>	Dog	Purina Pro Plan Veterinary Diets EN Gastroenteric	Nestle Purina Petcare Company	Purina	Aflatoxin, FUM, DON
<b>FED24-085 P</b>	Dog	Purina Pro Plan Veterinary Diets EN Gastroenteric	Nestle Purina Petcare Company	Purina	Pesticides
<b>FED24-088A</b>	Dog	Purina Pro Plan Veterinary Diets HA	Nestle Purina Petcare Company	Purina	Aflatoxin, FUM, DON
<b>FED24-089 P</b>	Dog	Purina Pro Plan Veterinary Diets HA	Nestle Purina Petcare Company	Purina	Pesticides
<b>FED24-092A</b>	Dog	Royal Canin Veterinary Selected Protein PD	Royal Canin USA, Inc	Royal Canin	Aflatoxin, FUM, DON
<b>FED24-009</b>	Other Ruminant	Soybean Meal	Landus Cooperative		Pesticides
<b>FED24-056</b>	Poultry	Country Feeds Duck Feed 18% Pellet	Nutrena	Nutrena	Macro Minerals/Contaminants
<b>FED24-058</b>	Poultry	Country Feeds Egg Producer Pellet	Nutrena	Nutrena	Macro Minerals/Contaminants
<b>FED24-054</b>	Poultry	Country Feeds All Flock 18% Pellet	Nutrena	Nutrena	Macro Minerals/Contaminants

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED24-060	Poultry	Country Feeds Gamebird/Turkey Grower 21%	Nutrena	Nutrena	Macro Minerals/Contaminants
FED24-062	Poultry	Layer 16%	Country Acres Feed Company	Country Acres	Macro Minerals/Contaminants
FED24-064	Poultry	Premium Layer Pellet	Poulin Grain Inc	Poulin Grain	Macro Minerals/Contaminants
FED24-066	Poultry	Organic Layer Crumbles	Purina Animal Nutriton LLC	Purina	Macro Minerals/Contaminants
FED24-068	Poultry	Layer 16 Crumble	Feed Solutions	True Choice	Macro Minerals/Contaminants
FED24-083 TM	Dog	Purina Pro Plan Veterinary Diets EN Gastroenteric	Nestle Purina Petcare Company	Purina	Toxic Metals
FED24-087 TM	Dog	Purina Pro Plan Veterinary Diets HA	Nestle Purina Petcare Company	Purina	Toxic Metals
FED24-091 TM	Dog	Royal Canin Veterinary Selected Protein PD	Royal Canin USA, Inc	Royal Canin	Toxic Metals
FED24-057	Poultry	Country Feeds Egg Producer Pellet	Nutrena	Nutrena	Proximate Analysis
FED24-023	Small Animal	Timothy Complete Rabbit Food	Kaytee Products, Inc.	Kaytee	Proximate Analysis
FED24-025	Small Animal	Guinea Pig	The Higgins Group Corp.	Higgins - Sunburst	Proximate Analysis
FED24-027	Small Animal	Hamster-Gerbil Fortified Daily Diet	F.M. Brown's Sons Inc.	Brown's Tropical Carnival	Proximate Analysis
FED24-029	Small Animal	Premium Ferret Diet	Marshall Pet Products, Inc.	Marshall	Proximate Analysis
FED24-031	Small Animal	Pure Hamster Food	Laroy Group Inc.	White Mill	Proximate Analysis
FED24-043	Equine	Carrot Crunchers	Mars Horsecare	Buckeye Nutrition	Proximate Analysis
FED24-045	Equine	Horse Treats Peppermint Flavor	Kent Nutrition Group, Inc.	Rounders	Proximate Analysis
FED24-053	Poultry	Country Feeds All Flock 18% Pellet	Nutrena	Nutrena	Proximate Analysis
FED24-059	Poultry	Country Feeds Gamebird/Turkey Grower 21%	Nutrena	Nutrena	Proximate Analysis

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
<b>FED24-061</b>	Poultry	Layer 16%	Country Acres Feed Company	Country Acres	Proximate Analysis
<b>FED24-067</b>	Poultry	Layer 16 Crumble	Feed Solutions	True Choice	Proximate Analysis
<b>FED24-086 PA</b>	Dog	Purina Pro Plan Veterinary Diets EN Gastroenteric	Nestle Purina Petcare Company	Purina	Proximate Analysis
<b>FED24-042</b>	Equine	Outlast Treats	Purina Animal Nutrition LLC	Purina	Proximate Analysis
<b>FED24-055</b>	Poultry	Country Feeds Duck Feed 18% Pellet	Nutrena	Nutrena	Proximate Analysis
<b>FED24-063</b>	Poultry	Premium Layer Pellet	Poulin Grain Inc	Poulin Grain	Proximate Analysis
<b>FED24-065</b>	Poultry	Organic Layer Crumbles	Purina Animal Nutrition LLC	Purina	Proximate Analysis
<b>FED24-090 PA</b>	Dog	Purina Pro Plan Veterinary Diets HA	Nestle Purina Petcare Company	Purina	Proximate Analysis
<b>FED24-094 PA</b>	Dog	Royal Canin Veterinary Selected Protein PD	Royal Canin USA, Inc	Royal Canin	Proximate Analysis
<b>FED24-099</b>	Other Ruminant	Soybean Meal			Aflatoxin, FUM, DON
<b>FED24-101</b>	Other Ruminant	Cracked Corn			Mycotoxins
<b>FED24-104</b>	Other Ruminant	Soybean	Cargill		Aflatoxin, FUM, DON
<b>FED24-106</b>	Other Ruminant	Soybean Meal			Mycotoxins
<b>FED24-098</b>	Other Ruminant	Soybean Meal			Pesticides
<b>FED24-100</b>	Other Ruminant	Cracked Corn			Pesticides
<b>FED24-103</b>	Other Ruminant	Soybean	Cargill		Pesticides
<b>FED24-105</b>	Other Ruminant	Soybean Meal			Pesticides
<b>FED24-120</b>	Other Ruminant	Whole Corn			Mycotoxins
<b>FED24-122</b>	Other Ruminant	Whole Corn			Mycotoxins

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED24-124	Other Ruminant	Whole Corn	Peck Farm		Mycotoxins
FED24-126	Other Ruminant	Soybean Meal			Aflatoxin, FUM, DON
FED24-128	Other Ruminant	Soybean Meal			Aflatoxin, FUM, DON
FED24-130	Other Ruminant	Cracked Corn			Mycotoxins
FED24-132	Other Ruminant	Soybean Meal			Aflatoxin, FUM, DON
FED24-134	Other Ruminant	Cracked Corn			Mycotoxins
FED24-137	Dog	Beef Flavor Dog Snacks	Big Heart Pet Brands Inc.	Canine Carry Outs	Mycotoxins
FED24-140	Other Ruminant	Whole Corn	Centerra Co-op		Mycotoxins
FED24-142	Other Ruminant	Soybean Meal			Aflatoxin, FUM, DON
FED24-102	Poultry	Wauregan Layer	Wauregan Grain Co	Wauregan Feeds	Proximate Analysis
FED24-107	Poultry	Organic Egg Layer Pellets	Kreamer Feeds Inc	Nature's Best	Proximate Analysis
FED24-109	Poultry	Duck Pellets	Purina Animal Nutrition LLC	Purina	Proximate Analysis
FED24-111	Poultry	Egg Maxx Pellet	Tractor Supply Company	DuMOR	Proximate Analysis
FED24-113	Poultry	Chick Starter Crumbles	PMI Nutrition, LLC	Cluck & Co.	Proximate Analysis
FED24-115	Poultry	Organic Chick Starter/Grower	Kreamer Feeds Inc	Nature's Best	Proximate Analysis
FED24-117	Poultry	Flock Raiser	Purina Animal Nutrition LLC	Purina	Proximate Analysis
FED24-135	Dog	Beef Flavor Dog Snacks	Big Heart Pet Brands Inc.	Canine Carry Outs	Proximate Analysis
FED24-108	Poultry	Organic Egg Layer Pellets	Kreamer Feeds Inc	Nature's Best	Macro Minerals
FED24-110	Poultry	Duck Pellets	Purina Animal Nutrition LLC	Purina	Macro Minerals

**Table 5. Sample Details.**

Sample Number	Sample Type	Sample Description	Register Name	Brand Name	Analysis
FED24-112	Poultry	Egg Maxx Pellet	Tractor Supply Company	DuMOR	Macro Minerals
FED24-114	Poultry	Chick Starter Crumbles	PMI Nutrition, LLC	Cluck & Co.	Macro Minerals
FED24-116	Poultry	Organic Chick Starter/Grower	Kreamer Feeds Inc	Nature's Best	Macro Minerals
FED24-118	Poultry	Flock Raiser	Purina Animal Nutrition LLC	Purina	Macro Minerals
FED24-119	Other Ruminant	Whole Corn			Pesticides
FED24-121	Other Ruminant	Whole Corn			Pesticides
FED24-123	Other Ruminant	Whole Corn	Peck Farm		Pesticides
FED24-125	Other Ruminant	Soybean Meal			Pesticides
FED24-127	Other Ruminant	Soybean Meal			Pesticides
FED24-129	Other Ruminant	Cracked Corn			Pesticides
FED24-131	Other Ruminant	Soybean Meal			Pesticides
FED24-133	Other Ruminant	Cracked Corn			Pesticides
FED24-136	Dog	Beef Flavor Dog Snacks	Big Heart Pet Brands Inc.	Canine Carry Outs	Toxic Metals
FED24-138	Dog	Beef Flavor Dog Snacks	Big Heart Pet Brands Inc.	Canine Carry Outs	Pesticides
FED24-139	Other Ruminant	Whole Corn	Centerra Co-op		Pesticides
FED24-141	Other Ruminant	Soybean Meal			Pesticides
FED25-004 PA	Goat	Dairy Goat Pellet	Poulin Grain Inc.	Poulin Grain	Proximate Analysis
FED25-006 PA	Goat	Goat Grow Pellet	Poulin Grain Inc.	Poulin Grain	Proximate Analysis
FED25-009 PA	Dairy Cattle	Ultra 20% Dairy Pellet	Poulin Grain Inc.	Poulin Grain	Proximate Analysis

**Table 5. Sample Details.**

<b>Sample Number</b>	<b>Sample Type</b>	<b>Sample Description</b>	<b>Register Name</b>	<b>Brand Name</b>	<b>Analysis</b>
<b>FED25-10</b>	Bovine	Lactating Mix	Wauregan Grain Co	Wauregan Grain	Proximate Analysis
<b>FED25-014 PA</b>	Goat	Dumor Goat Pellet	Tractor Supply Company	Dumor	Proximate Analysis
<b>FED25-016 PA</b>	Goat	Goat Grower 16 Plus UP DQ.0015	Purina Animal Nutrition LLC	Purina	Proximate Analysis
<b>FED25-018 PA</b>	Beef Cattle	Calf Starter Pellets	Tractor Supply Company	Producers Pride - Dumor	Proximate Analysis
<b>FED25-021 PA</b>	Beef Cattle	High Energy 20 An Cube	Purina Animal Nutrition LLC	Purina	Proximate Analysis
<b>FED25-003 MM</b>	Goat	Dairy Goat Pellet	Poulin Grain Inc.	Poulin Grain	Macro Minerals
<b>FED25-005 MM</b>	Goat	Goat Grow Pellet	Poulin Grain Inc.	Poulin Grain	Macro Minerals
<b>FED25-007 MM</b>	Dairy Cattle	Cow Dairy Pellet	Poulin Grain Inc.	Poulin Grain	Macro Minerals
<b>FED25-015 MM</b>	Goat	Dumor Goat Pellet	Tractor Supply Company	Dumor	Macro Minerals
<b>FED25-017 MM</b>	Goat	Goat Grower 16 Plus UP	Purina Animal Nutrition LLC	Purina	Macro Minerals
<b>FED25-019 MM</b>	Beef Cattle	Calf Starter Pellets	Tractor Supply Company	Producers Pride-Dumor	Macro Minerals
<b>FED25-022 MM</b>	Beef Cattle	High Energy 20 An Cube	Purina Animal Nutrition LLC	Purina	Macro Minerals

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