

Regulatory Services News

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Director's Digest

Don't Add to the Confusion

Every time I go grocery shopping I end up shaking my head at the marketing put forth by companies in order to sell their products. Recently I was at a UK baseball game and decided to buy some kettle corn. As I returned to my seat and looked at the label, I again shook my head as beside the "Kentucky Proud" label were the following: **Gluten Free-Nut Free-GMO Free-Cholesterol Free-Zero Trans Fat-No Artificial Flavors or Preservatives.** Some of those claims I can appreciate, but to say that popcorn is Gluten Free and GMO Free is technically true but mislabeling to me as corn doesn't contain gluten and there is no GMO popcorn. However, I appreciate that I have the education to know that and many consumers do not.

Michigan State University conducts two Food Literacy and Engagement Polls each year with a cross section of food consumers. In a poll of 2,048 American consumers last summer, 60 percent of respondents say food labels have an impact on their buying decisions. Seventy-one percent of consumers in households earning \$75,000 or more annually pay close attention to food labels, compared to just 53 percent of those earning less than \$25,000. Unfortunately, many of those consumers really don't know what they are looking for as exhibited by other results from these surveys. For example, 65 percent of

Americans say they look for products labeled "natural" when shopping for food, the term most sought after among a list of options offered in the survey. What does "natural" really mean? Arsenic and salmonella are "natural" but certainly not something I would want in my food. "Low sodium" and "clean" followed "natural" with 59 and 58 percent, respectively. Again, what do these terms really mean? As one of the directors of the survey reported: "It's notable that the most popular terms consumers search for on food labels are also the most ambiguous."

We also hear that many consumers do not want foods containing GMO's. Do they really understand what GMO's are? Results from the Michigan State survey shown on page 3 would suggest there is at least some confusion.

Thirty-seven percent of all consumers think that non-GMO foods do not contain genes and that number is 43% for those less than 30 years old. Since all foods contain genes, it would appear we could use more STEM courses in schools. Another result from one of the surveys revealed that 49 percent of consumers agree with the statement "all food with deoxyribonucleic acid (DNA) should be labeled." An additional 43 percent neither agreed or disagreed, while just 8 percent disagreed. Scary, isn't it.

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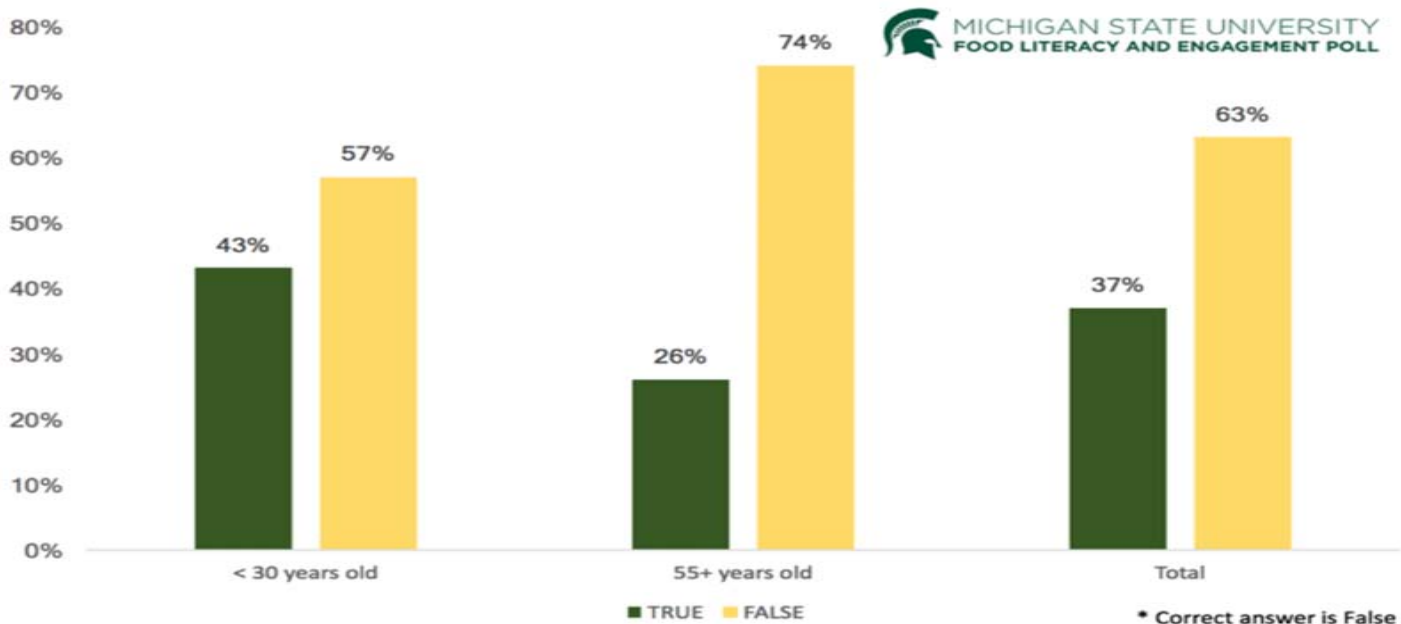
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Genetically modified foods have genes and non-genetically modified foods do not*



In the next 30-40 years we will need to produce as much food as was produced in the last 10,000 years of human history. In my opinion, we cannot do this without using genetically modified foods that will allow us to produce more on the same tillable acreage using less water, pesticides, and fertilizer. Despite a scientific consensus that GM foods are safe for human consumption, one recent study revealed that 90 percent of their respondents reported some level of opposition to GM foods. We need to build trust with consumers to change this mindset and we can't do this with mislabeling. When the public has a false belief it is more often in the interest of industry to cater to the belief than try to address the concern. Selling "gluten free" water may garner some quick sales but adds to consumer confusion and is certainly not doing anything to build trust.

Perhaps if a GMO food was developed that consumers prefer over a similar non-GMO food this will help convince people of the potential benefits of genetic modification. The biotech company Intrexon is convinced they can use science to create more products that people want and love in order to showcase these benefits. Its Arctic Golden apple and Granny Smith apple received regulatory approval in the United States and Canada in 2015. These apples have been modified so that they don't brown when they are sliced, bruised or bitten. This is not only beneficial from an aesthetic standpoint but can help

reduce food waste. Apples are the third most wasted food item in the US, behind bread and potatoes. Estimates suggest as much as 40 percent of all apples grown in America end up being wasted because of superficial browning and bruising. Jack Bobo is the vice-president for global policy and governmental affairs at Intrexon and he believes the food waste problem makes the Arctic apple a "product that people very easily understand." He states that people "might buy the Arctic apple because of the convenience, but it allows them to tell themselves a positive story about contributing to the reduction of food waste." He also notes that: "Our apples are the first GMO in the history of the world that consumers will buy because it's a GMO rather than in spite of the fact that it's a GMO." Intrexon has already planted one million apple trees and plans to plant a million more in order to match demand. You can buy dried Arctic Apple snacks on Amazon now and hopefully fresh ones will be available in stores soon. Buying these products and sharing with friends are a good way to start a positive discussion on the safety and benefits of GM foods. As Mr. Bobo notes, we need to encourage people to "fear less, read more and ignore the hype."

Back to my original point, labeling popcorn as gluten free and non-GMO is misleading. Why do I bring this up in an ag regulatory newsletter? Trends in human food eventually become trends in

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in pet food and may even carry over to livestock feeds. We are already seeing some of this in pet food. Please don't add to consumer confusion. We have a lot of work to do in consumer education which involves us gaining their trust. Three foundations of trust are: 1) shared values, 2) competence, and 3) transparency. Deceptive labeling blows transparency out of the water.

If you would like to read more about how scientific innovation can enhance food security, improve environmental sustainability, and raise the quality of life globally there is plenty of interesting information on the Cornell Alliance for Science website at <https://allianceforscience.cornell.edu/>.

Hemp Update

We have received calls from feed manufacturers that have customers wanting them to add hemp products into their livestock feed. At this time that is still not allowed. The 2018 Farm Bill did differentiate industrial hemp from marijuana and made it a legal agricultural crop. Further, industrial hemp-derived products containing less than 0.3 percent THC on a dry matter basis would no longer be a Schedule 1 drug under the act.

However, this does not exclude them from the Federal Food, Drug and Cosmetic Act which gives FDA the authority to regulate foods and drugs distributed in the United States. That Act makes it clear that any product bearing claims to treat, prevent or otherwise affect a disease or condition would be subject to enforcement action as an adulterated drug unless expressly approved by the FDA. Even without claims, it is unlawful to introduce food (including pet food) containing added CBD or THC into interstate commerce. FDA in collaboration with the Federal Trade Commission recently sent warning letters to three companies marketing CBD products "in response to their making unsubstantiated claims related to more than a dozen different products and spanning multiple product webpages, online stores and social media websites." FDA will host a public hearing on May 31, 2019 to hear comments on marketing cannabis derived products.

FDA acknowledges that some foods can be derived from parts of the hemp plant that may not contain CBD or THC, which puts forth the possibility for hemp based ingredients. In fact, FDA has concluded that hulled hemp seed, hemp seed protein powder, and hemp seed oil can be marketed in human foods but this does not currently apply to animal feed. To quote directly from an FDA Q&A that was

updated on April 4, 2019:

"All ingredients in animal food must be the subject of an approved food additive petition or generally recognized as safe (GRAS) for their intended use in the intended species. If an animal food contains an ingredient that is not the subject of an approved food additive petition or GRAS for its intended use in the intended species, that animal food would be adulterated under section 402(a)(2)(C)(i) of the FD&C Act [21 U.S.C. § 342(a)(2)(C)(i)]. In coordination with state feed control officials, CVM also recognizes ingredients listed in the Official Publication (OP) of the Association of American Feed Control Officials (AAFCO) as being acceptable for use in animal food. At this time, there are no approved food additive petitions or ingredient definitions listed in the AAFCO OP for any substances derived from hemp, and we are unaware of any GRAS conclusions regarding the use of any substances derived from hemp in animal food." You can view the Q & A at the following link: <https://www.fda.gov/NewsEvents/PublicHealthFocus/ucm421168.htm#farmbill>

With the increase in Industrial Hemp production that will occur as a result of the 2018 Farm Bill it would certainly benefit that industry if they would start the process of getting ingredient definitions approved by AAFCO. I wait for this to occur at every AAFCO meeting I attend but it hasn't happened yet.

Dr. Darrell Johnson
Executive Director

Annual Fertilizer and Seed Inspection Reports of Official Samples

Regulatory Bulletin No. 337, Seed Inspection Report 2018, is now available at the following link: <http://www2.ca.uky.edu/agcomm/pubs/RB/RB337/RB337.pdf>

If you would like a hard copy please call us at 859- 218-2468 and ask for Marilyn Smith or Steve McMurry and we can assist you. Archived editions are also available at the link above.

Regulatory Bulletin No. 336, Annual Report, Analysis of Official Fertilizer Samples July 2017 – June 2018 is now available at the following link: http://www.rs.uky.edu/regulatory/fertilizer/annual_bulletins/rb336.pdf

If you would like a hard copy please call us at 859- 257-2668 and ask for June Crawford or Steve McMurry and we can assist you. Archived editions are also available at the link above.

Steve McMurry
Director of Fertilizer and Seed Programs

UK Division of Regulatory Services Feed Sampling – A 3 Year Review

Our annual feed report is now available on our website and printed copies will also be distributed. The report provides an overview of feed program activities for the previous year and includes how guarantors fared in meeting their label guarantees when our inspectors sampled their products. This article will expand on the feed report by combining 3 years of sampling data (2016-18) and focusing more on different types of products and how well they met their guarantees.

Consumers purchasing any type of animal feed expect the product described by the label to be the product they purchased. The label is usually the consumer's only guide to what is in the bulk truck, bag, or other package. Our regulations specifically address this in 12 KAR 2:02 – **“The guaranteed analyses that appear upon the label of a commercial feed shall adequately inform the consumer of the actual nutrient content of a product. The Division of Regulatory Services shall use the 2018 Table of Kentucky Analytical Variations to determine those analytes that fall outside of acceptable ranges.”** Our law and regulations give this division the authority to determine if the consumer is truly adequately informed with regard to nutrient content. We make these determinations based on the table of analytical variations mentioned above. Bottom line, when we analyze a sample, we can assign a maximum allowed value to a label minimum and a minimum allowed value to a label maximum.

Table 1 shows the 9,208 samples in this review broken down by 3 major categories. Livestock feed comprised nearly half the samples at 47.2%, ingredients made up 9.2% of samples, and the remainder of the samples were categorized as pet food (43.6%). Percentage of samples passing (no violations) was highest for ingredients and lowest of livestock feed while percentage of analytes passed was lowest for pet food.

Tables 2, 3, and 4 further break down the samples by intended species. In Table 2, we see that the 3 largest feed types sampled were beef, poultry,

and equine (61.5% of all livestock feed). The percentage of samples passing ranges from a low of 65.5% to a high of 78.6%. All stock feeds do not have their own category but are grouped with either beef or equine feed. Mineral feeds cross all livestock categories but the majority of these samples are intended for beef animals in Kentucky. The other livestock feed category includes milk replacer, commercial fish feed, deer feed, and wild bird food. The most common violation for beef, poultry, dairy, swine, sheep, and goat feed is low crude protein with 14.3% of samples failing to meet the minimum guarantee. Interestingly, manufacturers appear to be doing a better job with equine feed with only 7.3% not meeting protein guarantees and a better passing rate for both samples and analytes. Medicated feed is not separated into its own category but of the 722 samples containing medication, 89% met their guarantees for the drug added.

Ingredients sampled are shown in Table 3. Corn products include both corn hominy and corn gluten feed; distillers products are primarily distillers dried grains, and soybean products include mostly soybean meal but also soy hulls. Other includes any other grain products, protein sources, and some fat or mineral sources. It is important to note that because this review only includes samples with label guarantees collected under official methods by our inspectors, the corn products category only includes a portion of all corn samples analyzed by our lab. Typically, ingredient samples will only have protein, fat, and fiber guarantees and few analytes will be measured by the lab. Soybean meal rarely failed to meet the protein guarantee, but we do see samples that have excessive crude fiber (11.1% failed). As with livestock feed, failure to meet the minimum crude protein guarantee was the most common violation with corn (14.4% failed) and distillers products (14.2% failed). It's not a stretch to speculate that most livestock feeds that fail to meet their crude protein guarantee fail because the actual protein from corn is lower than the value used in formulation.

Table 4 deals with pet food samples in four categories – dog food, cat food, dog & cat treats, and specialty foods (any pet other than a dog or cat). Most dog and cat foods would be complete foods where we use nutrient profiles (guarantees) established by the Association of American Feed Control Officials (AAFCO). The trends we find in livestock feed and ingredients are very different from what we find with pet foods. Overall, cat food is most likely to meet all its guarantees but the AAFCO profiles

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for cat food are also less restrictive than those for dog food, particularly the mineral profiles. When a dog food failed to meet guarantees, the most common violation was calcium (11.5% failed) and/or phosphorus (12.9% failed) and was 10 times more likely to be excessive than deficient.

Dog and cat treats passed only 75.2% of the time and was the only category where the analyte pass rate was less than 90%. By far, the most common problem with treats is meeting the fat guarantee with around 1 in 5 samples failing. Most of these (84%) were found to be excessive in fat despite our rather generous plus 5 percentage points over the fat minimum guarantee. For example, a product guaran-

teed at 5% minimum fat would not be in violation unless the measured fat was greater than 10%. If we look at the actual fat measured compared to the minimum fat guarantee for the 1039 samples analyzed for crude fat, we find an average of 41% higher fat in the product than the guaranteed minimum. For guarantors that list a minimum of 2% fat on the label of a product that is found to contain 8% fat, we will consider that product to be in violation and encourage the company to change their formulation or change their guarantee. Clearly, these labels are not adequately informing the consumer of the actual nutrient content of the product and could be considered mislabeled.

Table 1. UKDRS Sample Summary: By Feed Category
Official samples with guarantees 2016-18

	Total # samples	Samples passed	Analytes per sample	Analytes passed	Total companies
Livestock Feed	4,349	73.1%	6.6	94.5%	335
Ingredients	846	83.3%	2.3	96.2%	137
Pet Food	4,013	79.3%	7.7	91.9%	417

Table 2. UKDRS Sample Summary: Livestock Feed by Type
Official samples with guarantees 2016-18

	Total # samples	Samples passed	Analytes per sample	Analytes passed
Poultry Feed	693	75.9%	4.7	93.7%
Beef Feed	1,329	70.4%	6.5	93.9%
Dairy Feed	161	66.5%	6.0	92.3%
Swine Feed	394	72.8%	6.1	94.2%
Sheep & Goat Feed	206	65.5%	7.4	93.6%
Equine Feed	651	78.6%	7.2	96.0%
Mineral Feeds	572	72.4%	9.7	95.6%
Other Livestock Feed	343	76.7%	4.7	93.8%

Table 3. UKDRS Sample Summary: Ingredient by Type
Official samples with guarantees 2016-18

	Total # sam- ples	Samples passed	Analytes per sample	Analytes passed
Corn Products	174	83.9%	1.9	90.5%
Distillers Products	162	75.3%	3.3	92.0%
Soybean Products	303	83.2%	2.0	91.0%
Other Ingredients	207	89.4%	2.3	94.1%

Table 4. UKDRS Sample Summary: Pet Food by Type
Official samples with guarantees 2016-18

	Total # samples	Samples passed	Analytes per sample	Analytes passed
Dog Food	1,483	75.9%	11.8	96.6%
Cat Food	836	91.4%	11.0	98.9%
Dog/Cat Treats	1,379	75.2%	2.3	87.2%
Specialty Food	315	80.6%	2.9	92.7%

Dr. Alan Harrison
Director of Feed and Milk Programs

Fertilizer Heavy Metals Analysis for 2017-2018
Samples

Soils and fertilizer source materials naturally contain heavy metals. Federal, state and industry sponsored risk assessments demonstrate that metals in fertilizer generally do not pose harm to human health or the environment. Heavy metals can be introduced into fertilizer thru the process of recycling industrial wastes or other source materials. As long as the recycled waste materials do not exceed the treatment standards specified as waste (40 CFR 266.20) they can be designated as a beneficial recycling material and fertilizer source. The Association of American Plant Food Control Officials (AAPFCO) has established that phosphate and/or

micronutrient fertilizers are adulterated when they contain metals in amounts greater than established limits. These limits are based on the amount of phosphate and/or micronutrient guarantees. The Division of Regulatory Services routinely screens for heavy metals. Our office screens for the following: Arsenic (As), Cadmium (Cd), Cobalt (Co), Molybdenum (Mo), Nickel (Ni), Lead (Pb), Selenium (Se), and Zinc (Zn).

The tables on the next 2 pages show the results we found for heavy metal content of several mixed fertilizers as well as fertilizer materials used in the production of custom mixes. Our analysis found one analyte above established limits.

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Table 1. Heavy Metals Analytical Results from the 2017-2018 Samples (Arsenic to Molybdenum)
All Results in PPM (Columns starting with L depict maximum allowable limit)
A Missing Value Means That the Concentration of the Element was Below Detection Limits

Grade	As	LAs	Cd	LCd	Co	LCo	Mo	LMo
0-46-0	9	598	20	460	1	6256	4	1932
0-46-0	10	598	17	460	1	6256	5	1932
0-46-0	7	598	26	460		6256	20	1932
18-46-0	13	598	24	460	3	6256	19	1932
12-40-0	9	1120	6	830	3	22280	10	3000
Gypsum	3	4032		2988		80208	2	10800
12-40-0	14	1120	20	830	2	22280	20	3000
12-40-0	9	1120	24	830	2	22280	11	3000
Boron 10%	23	1120	0	830	0	22280	4	3000
Zinc 36%	22	1008	13	747	43	20052	199	2700
0-46-0	8	598	24	460	1	6256	16	1932
Gypsum	4	4256		3154	1	84664	3	11400
19-19-19	8	247	2	190	1	2584	7	798
18-46-0	17	598	12	460	3	6256	13	1932
18-46-0	19	598	31	460	1	6256	5	1932
Boron 10%	6195	1120	5	830	1	22280	3	3000
11-52-0	17	676	22	520	2	7072	4	2184
16-1-0	3	2240	1	1660	4	44560	3	6000
18-46-0	12	598	4	460	4	6256	14	1932
4-6-32	4	1652	2	1224		32863	3	4425
Boron 18.5 %	1	2072		1536		41218		5550
18-46-0	14	598	10	460	4	6256	20	1932
12-10-10	8	1257	1	931	3	24998	30	3366
18-46-0	16	598	4	460	4	6256	13	1932
6-18-6	7	234	4	180	1	2448	8	756
6-12-18	6	1719	3	1274	1	34200	4	4605
18-46-0	14	598	15	460	3	6256	11	1932
Mg 36%	3	4368	11	3237	13	86892	16	11700
11-22-10	8	286	2	220	2	2992	6	924
11-52-0	19	676	32	520	1	7072	4	2184
18-46-0	14	598	13	460	3	6256	12	1932
15-30-15	10	390	2	300	2	4080	8	1260
18-46-0	12	598	25	460	3	6256	16	1932
10-10-10	6	130	1	100	1	1360	8	420
9-6-1		560		415		11140	2	1500
Boron 10%	22	2968		2200	4	59042	7	7950
18-46-0	14	598	19	460	2	6256	10	1932
Boron 15%	36	1680		1245		33420	5	4500
11-35-15		455		350	1	4760	5	1470

Table 2. Heavy Metals Analytical Results from the 2017-2018 Samples (Nickel to Zinc)
All Results in PPM (Columns starting with L depict maximum allowable limit)
A Missing Value Means That the Concentration of the Element was Below Detection Limits

Grade	Ni	LNi	Pb	LPb	Se	LSe	Zn	LZn
0-46-0	28	11500	2	2806		1196	340	19320
0-46-0	32	11500	2	2806		1196	359	19320
0-46-0	36	11500	2	2806	6	1196	487	19320
18-46-0	16	11500		2806		1196	162	19320
12-40-0	13	19000	1	4630		1800	9573	
Gypsum	5	68400	1	16668		6480	14726	
12-40-0	24	19000		4630		1800	362	29000
12-40-0	12	19000		4630		1800	8866	
Boron 10%	2	19000	1	4630		1800	11	29000
Zinc 36%	522	17100	121	4167		1620	279936	
0-46-0	33	11500	2	2806	4	1196	464	19320
Gypsum	3	72200	1	17594		6840	337	110200
19-19-19	6	4750		1159		494	31	7980
18-46-0	21	11500	1	2806		1196	138	19320
18-46-0	40	11500	1	2806		1196	321	19320
Boron 10%	16	19000	1	4630		1800	11	29000
11-52-0	41	13000	1	3172		1352	505	21840
16-1-0	10	38000	2	9260		3600	220	58000
18-46-0	18	11500	1	2806		1196	68	19320
4-6-32	5	28025	46	6829		2655	19606	
Boron 18.5 %		35150		8566		3330	7	53650
18-46-0	16	11500	1	2806	1	1196	73	19320
12-10-10	32	21318	5	5195		2020	846	
18-46-0	17	11500	1	2806		1196	64	19320
6-18-6	20	4500	1	1098	1	468	135	7560
6-12-18	7	29165	4	7107	1	2763	525	
18-46-0	17	11500		2806		1196	202	19320
Mg 36%	110	74100	15	18057		7020	9287	113100
11-22-10	17	5500	1	1342		572	146	9240
11-52-0	43	13000	1	3172		1352	327	21840
18-46-0	18	11500	1	2806		1196	142	19320
15-30-15	9	7500	1	1830		780	45	12600
18-46-0	15	11500		2806	1	1196	122	19320
10-10-10	31	2500		610		260	19	4200
9-6-1	6	9500	2	2315		900	89	14500
Boron 10%	19	50350	8	12270	1	4770	4052	76850
18-46-0	20	11500		2806		1196	200	19320
Boron 15%	4	28500	1	6945		2700	28	43500
11-35-15	2	8750		2135	1	910	507	

No LZn value if Zn is guaranteed.
 No limit values for potash samples

Steve McMurry
 Director of Fertilizer and Seed Programs

Hemp Seed Testing and Storage

Hemp: What images does that bring to mind, when you hear this word? Hemp, with all of its many products, is becoming THE crop to grow in Kentucky. There are a multitude of uses for hemp: the seeds can be used raw and for the oil they produce. Oils are used for cooking, dietary supplements, personal care products, fuel, and paint. The seed can also be made into seed cakes for use in flour, beer, and animal feed (when approved). The hemp nut can be used in beverages, baked goods, granola and protein powder. The leaves and flowers can be used for animal bedding, compost and, of course, for CBD and recreational use. The long fibers obtained from the stalk are used in fabrics, apparel, twine, rope, and paper. The hurd can be used for organic compost, animal bedding, fiberboard and insulation. Roots can also provide medicine, organic compost, improve soil health, reduce water pollution and benefits in crop rotation.

Since the introduction of hemp into the Kentucky agriculture scene, there is so much information out there, that it can become mind-boggling and confusing. My intention in this article is to inform the grower on how the seed lab tests hemp seed for purity and germination.

All seed testing laboratories should be using either Association of Official Seed Analysts or International Seed Testing Association rules for testing seed. The regulations set by the Kentucky Seed Law, states that seed will be tested using the Rules for Testing Seed. Hemp has been included in the AOSA Rules since before it was considered illegal, approximately 50 years ago. The Rules for testing hemp have remained the same, due to it being a crop that could not be legally grown. However, at this time, there are no proposals to change the testing rules.

According to Section 2 Table 2A. Weights for Working Seed, hemp is listed as *Cannabis sativa* L., industrial hemp/marijuana. The minimum weight to test is 50 grams for the purity portion and 500 grams total for the noxious portion. If the submitted sample is under this amount, there will be a remark on the analysis report to reflect this. After the submitted sample has been mixed and divided down to the appropriated weight, the 50 grams will be examined for pure seed, inert matter, other crop and weed seed (including noxious weeds). The remaining 450 grams will be analyzed for Kentucky noxious weed seed.

The inert matter for *Cannabis* is described in the Rules as the following:

- Intact achene whether or not a seed is present.
- Piece of broken achene larger than one-half of

the original size, unless no seed is present.

- Seed, with or without pericarp/seed coat.
- Piece of broken seed, with or without pericarp/seed coat, larger than on-half the original size.

Other crop and weed seed will be identified and classified as crop or weed, according to AOSA Rules for Testing Seed, Volume 3., “Uniform Classification of Weed and Crop Seeds”.

Once the purity has been completed, the pure seed is sent to the germination lab for testing. The Rules Section 6 Table 6A. Methods of testing for laboratory germination, state the following:

Four hundred seed from the pure seed portion shall be planted on germination towels or blotters, at 20-30 degrees Celsius (60-86 Fahrenheit) alternating temperatures, low temperature for 8 hours and high temperature for 16 hours. A first count is done at 3 days and the final count at 7 days with water as the provided moisture. There are no provisions in the Rules for hard seed or dormant seed.

The given definition for germination, according to the Rules 6.2 is as follows:

Seed Germination. - In the seed laboratory practice, germination is defined as the emergence and development from the seed embryo of those essential structures that, for the kind of seed in question, are indicative of the ability to produce a normal plant under favorable conditions.

The seedlings are evaluated by the germination analysts, using the Rules for Testing Seed Volume 4. Seedling Evaluation. Seedlings classified as normal are reported on the analysis report as a percentage of germination and viable.

This is a condensed and non-technical version of testing hemp samples in the laboratory. I would like to add a couple of statements about the storage of hemp seed once harvest is completed. If possible, store your seed in a controlled environment, with the temperature (in Fahrenheit) and humidity equaling 100. For example: if the temperature is 50° F, then humidity should be 50%, ideally. The seed coat of *Cannabis* is fairly hard but being a high oil seed, the embryo is very susceptible to temperature and moisture. So storing properly will go a long way in maintaining good seed.

Hemp takes up a great amount of space in the lab’s germinators to plant. If submitting a high amount of samples, please note that there may possibly be delay times in results.

As seed testing professionals, we hold high hopes for this year’s hemp harvest. Please know that the seed laboratory is here to provide your seed testing needs. Good luck with your hemp crop this year!

Tina Tillery
Seed Laboratory Supervisor

EPA Guidance for Plant Regulator Label Claims, including Plant Biostimulants available for comment

The Office of Pesticide Programs (OPP), within EPA, is seeking public comment on a draft guidance document entitled "Guidance for Plant Regulator Label Claims, Including Plant Biostimulants." This draft guidance document is intended to clarify that products with label claims that are considered to be plant regulator claims are subject to regulation as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The OPP is also seeking comment on whether EPA should develop a definition for plant biostimulants, noting that the development would require rulemaking. The document was posted on March 25, 2019 and is open for a 60 day comment period.

This document was created as many products which claim to be plant biostimulants make the same claims as plant regulator products which may fall under FIFRA. The full document can be found at the following link:

<https://www.regulations.gov/document?D=EPA-HQ-OPP-2018-0258-0002>

The document gives examples of plant nutrition-based claims, plant inoculant-based claims as well as soil amendment-based claims (intended for the purpose of improving soil characteristics favorable for plant growth). The document also gives generic product label claims generally considered by the EPA to be "non-pesticidal", but more importantly they have examples of label claims that are considered by EPA to be Plant Growth Regulator Claims which would trigger regulation under FIFRA as a pesticide. The document also has a list of active ingredients which have modes of action that trigger regulation under FIFRA as a pesticide.

Plant biostimulants are a growing category of products which may fall within several already existing regulatory areas or may not be regulated at all. This guidance is one of the first steps to categorize these products and to start the discussion of where these products will be regulated for the safety of the consumer.

Stephen McMurry
Fertilizer and Seed Program Director

Laboratory Renovations

Improvements are being made to two laboratories within the Division. The soils laboratory in Princeton has been undergoing renovation since March. The renovation is part of overall development

of the Grain and Forage Center of Excellence at the Princeton Experiment Station. The renovation has caused longer turn-around times for soil samples this spring season as the temporary lab space has been operating with limited capability. An instrument in Lexington has been serving to analyze soil extracts for all samples in the state. Renovation is expected to be completed in August. We apologize for the delay in receiving your results this spring and turn-around times should return to normal with fall testing.

The sample preparation laboratory for feed, fertilizer, ag lime, and hemp will undergo renovation this summer to improve dust control. Samples undergo reduction in the amount that is delivered to the lab via splitting and ground to a fine particle size for analysis. Downdraft tables will be used for splitting samples and enclosed hoods will be used for grinding samples. The new equipment will make significant improvement in safety with respect to dust exposure.

Dr. Frank Sikora
Director of Laboratories and Soils Program

Upcoming Meetings

Kentucky will host the annual meetings this year for the American Association of Feed Control Officials and the Association of American Plant Food Control Officials. Attendees for these meetings usually consist of about one-third control officials and two-thirds industry representatives. Several members of the UK Division of Regulatory Services are very active in both organizations. We look forward to hosting this meeting and hope our feed and fertilizer agribusinesses in Kentucky will join us in welcoming attendees to our beautiful state.

AAFCO Annual Meeting
August 5-7, 2019
Louisville Marriott Downtown
Louisville, KY
<https://www.aafco.org/Meetings>

AAPFCO Summer Annual Meeting
August 7-9, 2019
Louisville Marriott Downtown
Louisville, KY
<http://www.aapfco.org/meetings.html>

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