

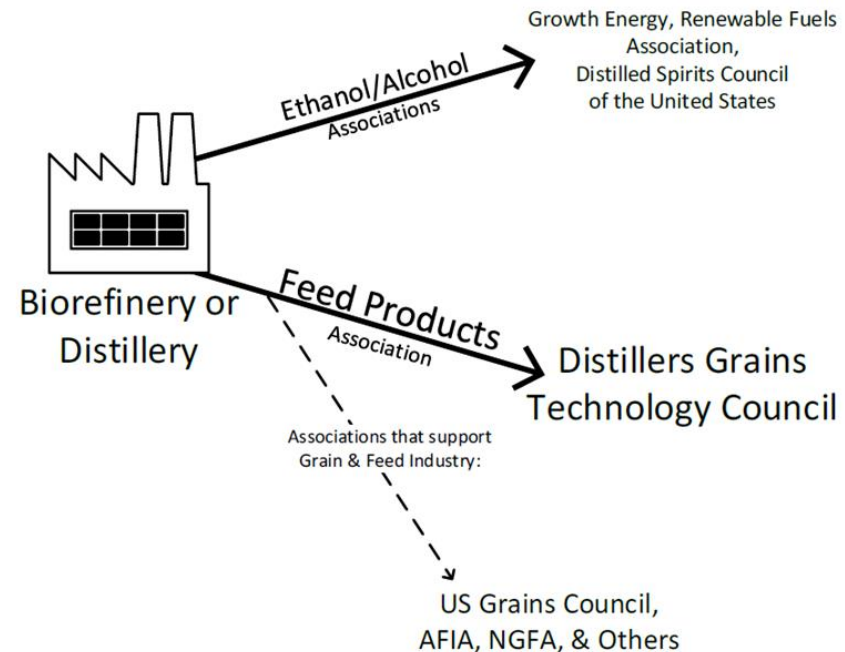


Distillers Products & Refining the Industry

FELC 2022

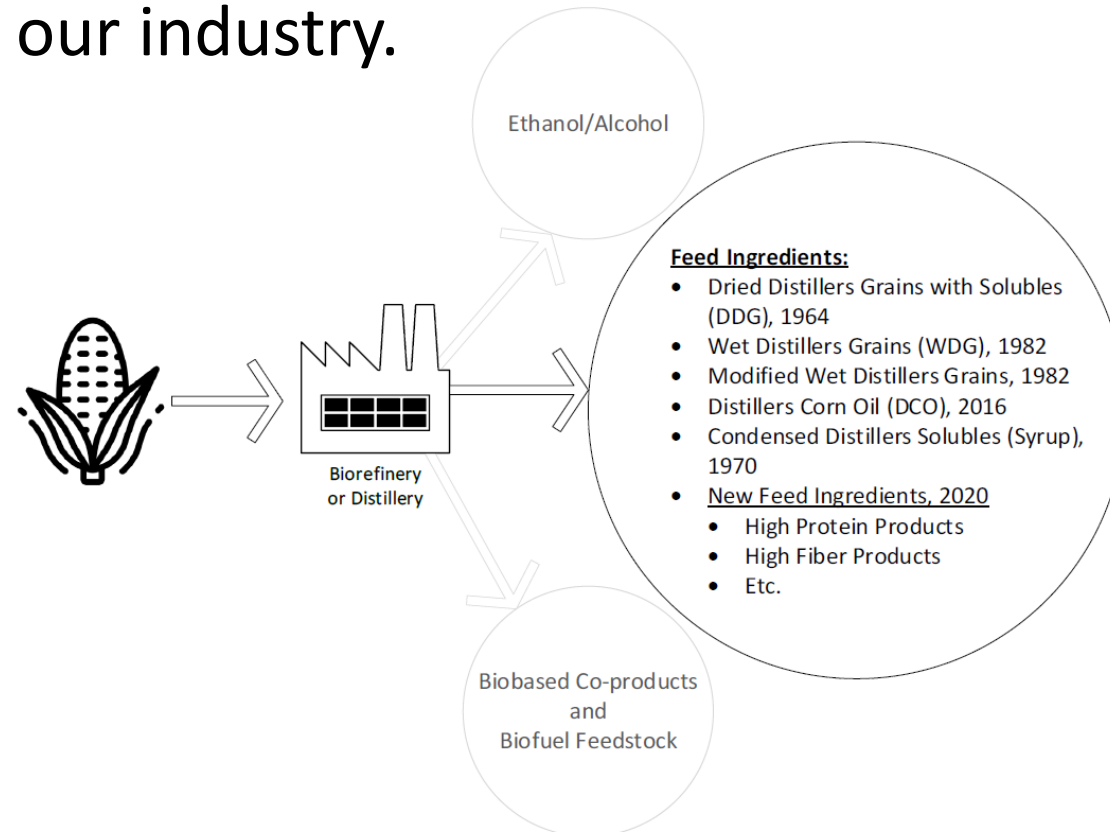
Distillers Grains Technology Council (DGTC)

- Since 1940, the primary focus of the DGTC has been to teach end-users in the feed industry about the nutritional value of ingredients manufactured by fuel and beverage ethanol producers



Distillers Products

- As technological and sustainable advancements in production of distillers feed products are made, new and exciting opportunities have opened up for our industry.



Refining the Industry

- The DGTC is actively advocating, aligning, and educating the industry on 4 current focus areas:
 - Regulatory
 - Sustainability
 - Trade
 - Lab Proficiency

Regulatory Focus and Refinement

- The focus of the DGTC Regulatory Committee is to advocate for and educate our industry, animal food industry, and regulators.
- Education of the Industry
 - Working with industry partners on educational materials (USGC Handbook).
 - Ingredient Summary Table on the DGTC Website.
- Education of Regulators
 - DGTC will have a training for FDA Regulators in October 2022
 - Slides will be available on our website after the training



Regulatory Focus and Refinement

- Table on the DGTC website summarizes and educates on the diversification of our industry.
 - distillersgrains.org/distillers-grains/
- There have been a number of recent high value ingredients generated by biorefineries, which show that advancements in technologies are cause for both excitement as well as a need for a strategic plan to facilitate this growth.



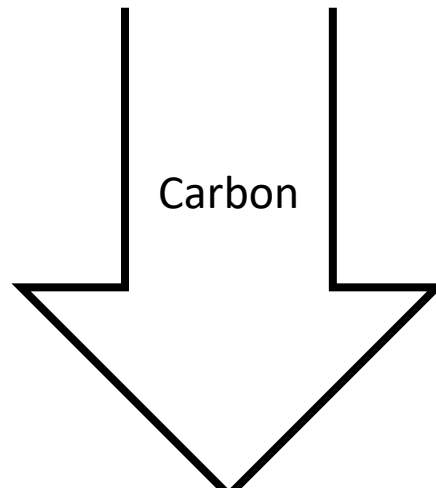
Distillers & Biorefinery Products - February 2021					
Dried Distillers Grain Products					
Industry Name	Common Analysis (As Fed)			Current AAFCO Definition	General Description
	%Protein	%Fat	% Crude Fiber		
DDGS	23-36	3-9	<14	27.6, 27.8	Distillers grains with condensed distillers solubles with a portion of oil removed. Can be in dry or wet form (dry form common analysis displayed).
Full Fat DDGS	21-34	8-12	<14	27.6, 27.8	Distillers grains with condensed distillers solubles. No oil has been removed. Can be in dry or wet form (dry form common analysis displayed).
Deoiled DDGS	26-36	<3	<14	27.9	Solvent extracted DDGS.
DDGS with Bran	23-36	3-16	<14	27.6, 27.8, 48.2	DDGS mixed with bran separated by plant prior to fermentation. Can be in dry or wet form (dry form common analysis displayed).
DDGS Mechanically Separated	24-48	3-8	<14	27.5, 27.4	Post distillation residual whole stillage resulting from the mechanical separation of fiber and protein. Contains condensed distillers solubles.
DDG	24-35	4-8	<14	27.5	Distillers grain. May have a portion of oil removed. Does not contain condensed distillers solubles.
HiPro DDG	36-48	4-6	<12	27.5	Distillers grain. Portion of fiber and oil removed which concentrates protein. Does not contain condensed distillers solubles.
Other Distillers Products					
Industry Name	Common Analysis (As Fed)			Current AAFCO Definition	General Description
	%Protein	%Fat	% Crude Fiber		
Synp (CDS)	5-25	3-23	0-4	27.7	Condensed thin stillage.
Distillers Yeast	40-55	0-8	0-6	96.5	Inactive <i>Saccharomyces cerevisiae</i> yeast removed from the process stream after fermentation either before or after distillation.
	%Total Fatty Acids	%Unsaponifiable Matter	%Insoluble Impurities		
Distillers Oil	>85	<2.5	<1	33.10	Oil removed by centrifugation from the condensed distillers solubles stream or by solvent extraction of DDGS.
High Fiber Distillers Products					
Industry Name	Common Analysis (As Fed)			Current AAFCO Definition	General Description
	%Protein	%Fat	% Crude Fiber		
Bran/Fiber with Syrup	18-28	4-9	15-20	48.2, 27.7	Bran separated by plant prior to fermentation mixed with condensed distillers solubles. Can be in dry or wet form (dry form common analysis displayed).
Fermented Fiber Mechanically Separated	<24	2-7	10-20	27.5, 27.4	Post distillation mechanical separation of the whole stillage resulting in a concentration of fiber. Does not contain distillers solubles unless listed.
Fermented Protein Products					
Industry Name	Common Analysis (As Fed)			Current AAFCO Definition	General Description
	%Protein	%Fat	% Crude Fiber		
Fermented Protein	48+	3-8	<8	27.5	Portions of fiber and oil removed by concentrating residual grain and yeast proteins by methods commonly used in distilling industry. Contains concentrated spent yeast products. Does not contain condensed distillers solubles unless listed.
Fermented Protein Mechanically Separated	48+	1-5	<8	27.5	Post distillation separation of protein from the whole stillage, utilizing only mechanical separation. Will contain spent yeast products, no non-mechanical methods utilized post distillation. Does not contain distillers solubles unless listed.

This table is meant for informational purposes only and does not convey any regulatory or specification requirements. The information listed is not all inclusive and is current as of date displayed in title and will be updated as industry innovation continues. The Distillers Grain Technology Council does not endorse any specific product or brands of feed products.

2/11/2021

Sustainability Focus and Refinement

- Our industry is focused on reduction of carbon!
- But what is the animal food industry's expectation of our feed products from a sustainability stand point?
 - How do we tell our story from a co-product/feed product/ingredient perspective?
 - The DGTC Sustainability Committee is focusing on just that!



Trade Focus and Refinement

- The Trade Committee is focused on reviewing current trade rules that our distillers grains and other ingredients are sold under.
 - Are there opportunities to refine the trade rules to improve how we trade and the value in the market place domestically?
 - Discussions with NGFA on potential opportunities.
 - Opportunities to align industry on current issues with international trade.
- Some of the success here, depends on the Lab Proficiency and Method Alignment in the industry.



Laboratory Proficiency and Refinement

- The distillers feed product industry often uses third-party labs to validate internal lab systems, verify feed product quality and safety, and provide non-biased results to customers.
- Third party and internal plant labs are critical to the success and perception of our industry.



Laboratory Proficiency and Refinement

- Action items for this to be successful:
 - Lab Method Alignment
 - Proficiency Program Improvement
 - Industry and Affiliate Organization Buy-In
 - Education



Laboratory Proficiency and Refinement

- Lab Method Alignment:
 - Update Industry Recommended Paper
 - DGTC will serve as technical expertise.

Table 4 AFIA DDGS Analytical Method Recommendations

Moisture/Loss on Drying	
NFTA 2.2.2.5	Lab Dry Matter (105 °C / 3 hr)
Crude Protein	
^a AOAC 990.03	Protein (Crude) in Animal Feed - Combustion
^a AOAC 2001.11	Protein (Crude) in Animal Feed and Pet Food (Copper Catalyst)
Crude Fat	
AOAC 945.16	Oil in Cereal Adjuncts (Petroleum Ether)
Crude Fiber	
AOAC 978.10	Fiber (Crude) in Animal Feed and Pet Food (F.G. Crucible)

^aMethods are statistically similar and either is acceptable for use on DDGS



AMERICAN FEED INDUSTRY ASSOCIATION

*Evaluation of Analytical
Methods for Analysis of Dried
Distillers Grains with Solubles*

*AFIA Sub-Working Group Final
Report and Recommendations
February 2007*

Co-sponsored and Equally Funded by:



AMERICAN FEED INDUSTRY ASSOCIATION



Renewable Fuels Association

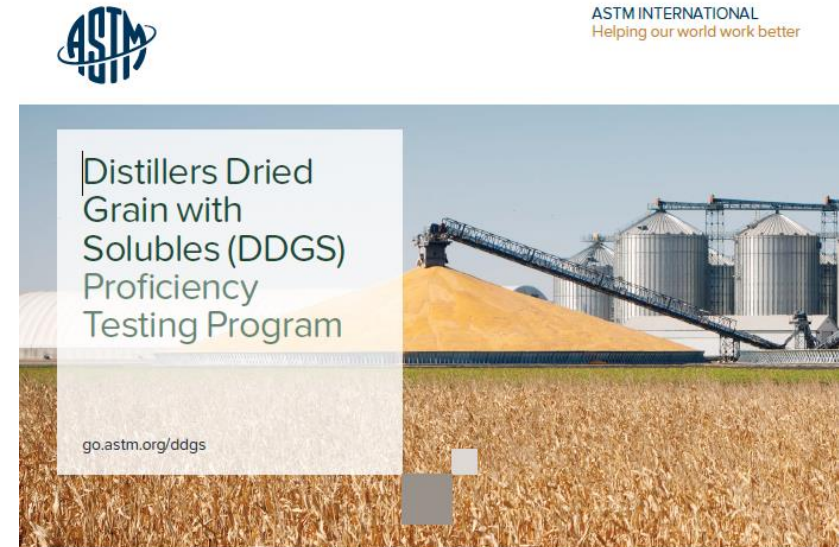


www.ncga.com

2101 Wilson Blvd., Suite 916, Arlington, VA 22201
Tel.: 703/524-0810 FAX: 703/524-1921 E-mail: afia@afia.org www.afia.org

Laboratory Proficiency and Refinement

- Action items for this to be successful:
 - Proficiency Program
 - The DGTC identified ASTM to lead the DDGS Proficiency Program.
 - The DGTC continues to provide technical direction to ASTM for this program.
 - ASTM will share more details!




Test your laboratory's performance in testing Distillers Dried Grain with Solubles (DDGS) with this new ASTM Proficiency Testing Program.

As the ethanol and distillery industry continues to produce large quantities of DDGS, it is important to maintain consistency when validating nutritional content and avoiding contaminants. Therefore, efficient laboratory testing is needed to measure various chemical compounds and physical attributes.

Use this program to measure quality-controlled DDGS samples for:


- | | | |
|------------|-----------------|------------------|
| - moisture | - ADF | - color |
| - protein | - ash | - pH |
| - fat | - sulfur | - water activity |
| - fiber | - bulk density | - mycotoxins |
| - NDF | - particle size | |

 2 Test Cycles Per Year: **March, August**
One Annual Fee

Questions? Contact **Angellique Fonteno**
afontenot@astm.org | tel +1.610.832.9748
go.astm.org/ddgs

Each participating lab will receive:

 3 samples of approximately 300 g each of DDGS for each test cycle	 Access to custom ASTM PTF2 Application to enter and compare data
 Electronic test instructions and data report forms	 Detailed confidential statistical summary reports for all completed test methods available approximately 20 business days after submission

 Test samples are prepared and distributed for ASTM International by SGS North America in Deer Park, TX. Technical direction for this program provided by the Distillers Grain Technology Council.

Laboratory Proficiency and Refinement

- Action items for this to be successful:
 - Industry and Affiliate Organization Buy-In
 - We are working and educating our industry associations to ensure this lab proficiency program has buy-in and recognition.



Laboratory Proficiency and Refinement

- Action items for this to be successful:
 - Education
 - Participation is critical to success and continuous improvement.
 - Alignment on industry recommended methods is key.
 - Recognition of proficiency is important, too. Next Steps?

Distillers Products & Refining the Industry

- The co-product, feed product, ingredient side of the ethanol industry has several areas to refine.
- The DGTC needs industry collaboration, support, and commitment to truly foster this growth in a strategic, representative, and sustainable way.
- Implementation of a robust DGTC Lab Proficiency Program is an essential element in this endeavor.



Thank you!

Discover more with us at the DGTC
Symposium in Des Moines
August 7 – 9, 2023!



Interested in being more involved with the DGTC?

- More Information on membership, contact:
 - DGTC Website:
 - <https://distillersgrains.org/>
 - Michelle Harper, DGTC Team Member
 - vhonda.harper@louisville.edu
- Questions:
 - Berit Foss, DGTC Board Member
 - Berit.Foss@poet.com
 - Joe Ward, DGTC Board Member
 - JWard@fluidquiptechnologies.com

