19th Annual Distillers Grains Symposium
– Symposium Overview –

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Executive Director & CEO
Distillers Grains Technology Council
www.distillersgrains.org
Outline

• Distillers Grains Technology Council
• Historical perspectives
• Coproducts in 2015
• Challenges and opportunities
• 2015 Symposium Overview
What Do We Do?

- **Our Mission**
  The goals of our organization encompass a broad interest in current issues affecting the beverage, fuel, and livestock industries

- **Service Support**
  To provide educational and technical services to member producers and users of distillers grains

- **Advocacy**
  To be the principle voice on nutrition, safety, and regulatory issues affecting distillers grains

- **Market Development**
  To encourage, administer, and support research and promotion into new and existing market opportunities for distillers grains, and advancing the awareness of coproduct value
What Do We Do?

• Yearly symposium
• Other conferences & trade shows
• Educational papers & publications
• FDA / AAFCO
• Provide support to
  – Fuel ethanol companies
  – Beverage companies
  – Livestock producers
• Weekly information feed to FULL MEMBERS
Historical Perspectives
DGTC has worked with beverage, fuel, and livestock industries for 70 years.
Distillers Grains Technology Council

• Late 1800s
  – Distillers coproducts increasingly used in animal feeds (not rivers anymore) due to state environmental regulations

• 1913
  – First AAFCO definition for DDGS
  – Exports to Europe occurring

• 1945
  – Seagram’s Distillers Corporation hosted a meeting of industry, university and government attendees to discuss feed uses of distillery coproducts
  – Distillers Feed Research Council founded
    • Cincinnati, OH
    • Feeding trials, research, annual symposium

Prohibition:
1920: 18th Amendment
1933: 21st Amendment
1966: all states fully repealed
Distillers Grains Technology Council

Distillers Feed Research Council Meeting, March 15, 1951, Cincinnati, OH

Distillers Feed Research Council Meeting, January 24, 1950, Cincinnati, OH
Distillers Grains in Animal Feeds

• “Grain distillers have developed equipment and an attractive market for their recovered grains” (Boruff, 1947)

• “Distillers are recovering, drying, and marketing their destarched grain stillage as distillers dried grains and dried solubles” (Boruff, 1952)
Coproducts in 2015
A typical corn ethanol fuel plant
Annually:
- 47 million bushels of corn
- 130 million gallons of denatured ethanol
- 480,000 tons of coproducts

2015
Fermentation Products

Theoretical Yields
1 kg glucose = 0.51 kg ethanol
+ 0.49 kg carbon dioxide

Practical Yields
90 – 95% of theoretical
+ yeast cell mass
+ secondary products

Anecdotally:
1 lb corn =
1/3 lb ethanol
+ 1/3 lb CO₂
+ 1/3 lb DDGS

1 bu corn =
2.8 gal ethanol
+ 18 lb CO₂
+ 17 lb DDGS
Evolving Processes

Now:

1 bu corn =

2.8 gal ethanol
+ 18 lb CO₂
+ 16 lb DDGS + 1 lb oil
Ethanol Growth

Growth of U.S. fuel ethanol industry
DDGS Quality & Value

Livestock producers vs. Ethanol/spirits manufacturers on the price vs. availability axis.
Challenges and Opportunities
DDGS – Some Key Issues

2005

• “Mountains of distillers grains”
• Livestock feed
  – Current generation products
  – Next generation products
  – Processed feeds
  – New species
• Standardized grading system
• Antibiotic residues
• Sulfur / phosphorous
• Mycotoxin contamination
• Energy consumption / cost
• Optimizing quality w/ ethanol

• Consistency / variability
• Transportation
  – Domestic
  – International
  – Flowability
• Other value-added uses
  – Human foods
  – Industrial products
DDGS – Some Key Issues
2015

• “Mountains of distillers grains”
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DDGS – Some Key Issues 2015

• EPA proposed reduction in ethanol mandate
• FSMA (Food Safety and Modernization Act)
• Effects of oil removal on livestock performance
• Are we capturing the TRUE VALUE from distillers grains?

• We will learn about these issues
  – Industry leaders will address
2015 Symposium

• Wide array of topics
  – Markets, economics, exports
  – Beef, dairy, swine, poultry
  – Processing (upstream and downstream)
  – Regulatory issues
  – Networking opportunities
    • Breaks
    • Lunches
    • Large reception tonight
    • Exhibitors
# 2015 Symposium

## PROGRAM AGENDA

### 19th Annual Distillers Grains Symposium

### Tuesday, May 12

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>11:30 a.m.</td>
<td>Golf Outing, tee time</td>
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<tr>
<td>7:00-11:00 p.m.</td>
<td>Hospitality suite, exhibits and early registration</td>
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</tbody>
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### Wednesday, May 13

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00-8:00 a.m.</td>
<td>Registration / Buffet Breakfast</td>
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<tr>
<td>8:00-8:15</td>
<td>Symposium Welcome — Dr. Lance Forster, President, Distillers Grains Technology Council (DGTC)</td>
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<tr>
<td>8:15-8:30</td>
<td>Symposium Overview — Dr. Kurt Rosentrater, Executive Director, DGTC</td>
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<tr>
<td>8:30-9:45</td>
<td>Issues Affecting the Economics of DDGS Production and Marketing in 2014-2015 Mr. Randy Ives, Gavilon, LLC</td>
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<td>9:45-10:00</td>
<td>Break</td>
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<tr>
<td>10:00-11:15</td>
<td>Insights on Innovation — Mr. Steve Lewis, POET</td>
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<td>Lessons Learned from Feeding Coproducts to Beef Cattle — Mr. Gary Robwer, Bar Diamond</td>
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<tr>
<td>11:15-12:00</td>
<td>Graduate Student Scholarship Presentations</td>
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<tr>
<td>12:00-1:15</td>
<td>Lunch &amp; Exhibits</td>
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<tr>
<td>1:15-2:30</td>
<td>Flow of Coproducts Through U.S. Market Channels — Mr. Tim Worledge, Platts</td>
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<td>Best Practices for Using Coproducts in Dairy Diets — Dr. Kenneth Kalscheur, USDA-Agricultural Research Service</td>
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<tr>
<td>2:30-2:45</td>
<td>Break</td>
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<tr>
<td>2:45-3:15</td>
<td>Processing Evolutions and Impacts on Coproducts — Dr. Doug Rivers, ICM, Inc.</td>
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<td>3:15-4:30</td>
<td>New Products Panel</td>
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<td>Impacts of Upstream Fractionation on Coproducts — Dr. Sabrina Trupia, National Corn to Ethanol Research Center</td>
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<tr>
<td>4:30-5:00</td>
<td>Opportunities for Improving Ethanol and Coproducts Economics — Mr. Phil Madison, KATZEN International, Inc.</td>
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<tr>
<td>5:00-8:00</td>
<td>Cocktail Party, Open Bar &amp; Hors D’oeuvres Networking Reception &amp; Exhibits</td>
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<tr>
<td>8:00-11:00</td>
<td>Hospitality Suite &amp; Exhibits</td>
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### Thursday, May 14

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<tr>
<td>7:00-8:00 a.m.</td>
<td>Buffet Breakfast</td>
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<tr>
<td>8:00-10:00</td>
<td>Issues Affecting Exports of DDGS in 2014-2015 — Mr. Atsaro Cordero, U.S. Grains Council</td>
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<td>Impacts of Upstream Modifications on Downstream Coproducts — Ms. Tara Vigil, KATZEN International, Inc.</td>
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<td>Impacts of New Yeasts on Coproducts — Dr. John McBride, Mascoma/Lallmand Biofuels &amp; Distilled Spirits</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Break</td>
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<tr>
<td>10:15-12:15</td>
<td>How FSMA Will Impact Producers of DDGS — Mr. Richard Sellers, American Feed Industry Association</td>
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<td>Best Practices for Using Coproducts in Poultry Diets — Dr. William Dozier, Auburn University</td>
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<td>What You Need to Know About Establishing a HACCP Program at Your Facility — Mr. Matt Frederking, Ralco Nutrition</td>
</tr>
<tr>
<td>12:15-12:30</td>
<td>Symposium Wrap-up — Dr. Kurt Rosentrater, Executive Director, DGTC</td>
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<tr>
<td>12:30-1:30</td>
<td>Lunch &amp; Exhibits — End of Symposium</td>
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2015 Symposium

• Housekeeping items
  – Please silence your cell phones
  – Rest room locations
  – Internet availability
  – Trade show / meals
  – Emergency evacuation
Consider becoming a DGTC member:

- www.distillersgrains.org

- Application forms available at registration desk

Thank you!
Enjoy the Symposium!
DISTILLERS GRAINS TECHNOLOGY COUNCIL

“Increasing the awareness of the value of Distillers Grains”