

# Flow of coproducts through US market channels

Opportunities for price reporting services

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May 13, 2015

- Why am I here?
- Overview of US DDGS markets
  - Market structure
  - Market participants
- Platts perspective
- In search of transparency

...a leading global provider of commodities information and a foremost provider of benchmark price assessments, covering such key markets as:



**Oil**



**Natural Gas**



**Electric  
Power**



**Petrochemicals**



**Metals**



**Coal**



**Agriculture**



**Shipping**

... a division of McGraw Hill Financial, a leader in credit ratings, benchmarks and analytics for the global capital and commodity markets.

McGraw Hill Financial's other well-known brands include:



# More Than a Century of Growth

Platts was founded by journalist Warren Platt who started a monthly news magazine, National Petroleum News



Warren C. Platt  
(1883-1963)

Platts expanded into petrochemical markets with the launch of Platts European PetrochemicalScan

Platts acquired FT Energy, becoming the primary provider of U.S. gas and power daily benchmarks



Platts acquired Kingsman, gaining a leadership position in sugar and a foothold in agriculture



1909      1953      1975      1994      2001      2011      2012      2014      2015



Platts was acquired by The McGraw Hill Companies



**Metals Alert**

Platts acquired Metals Week and launched Metals Alert, a real-time service



Bentek Energy, Steel Business Briefing and its pricing unit, The Steel Index, were acquired, establishing Platts' leadership in natural gas market fundamentals and metals, respectively

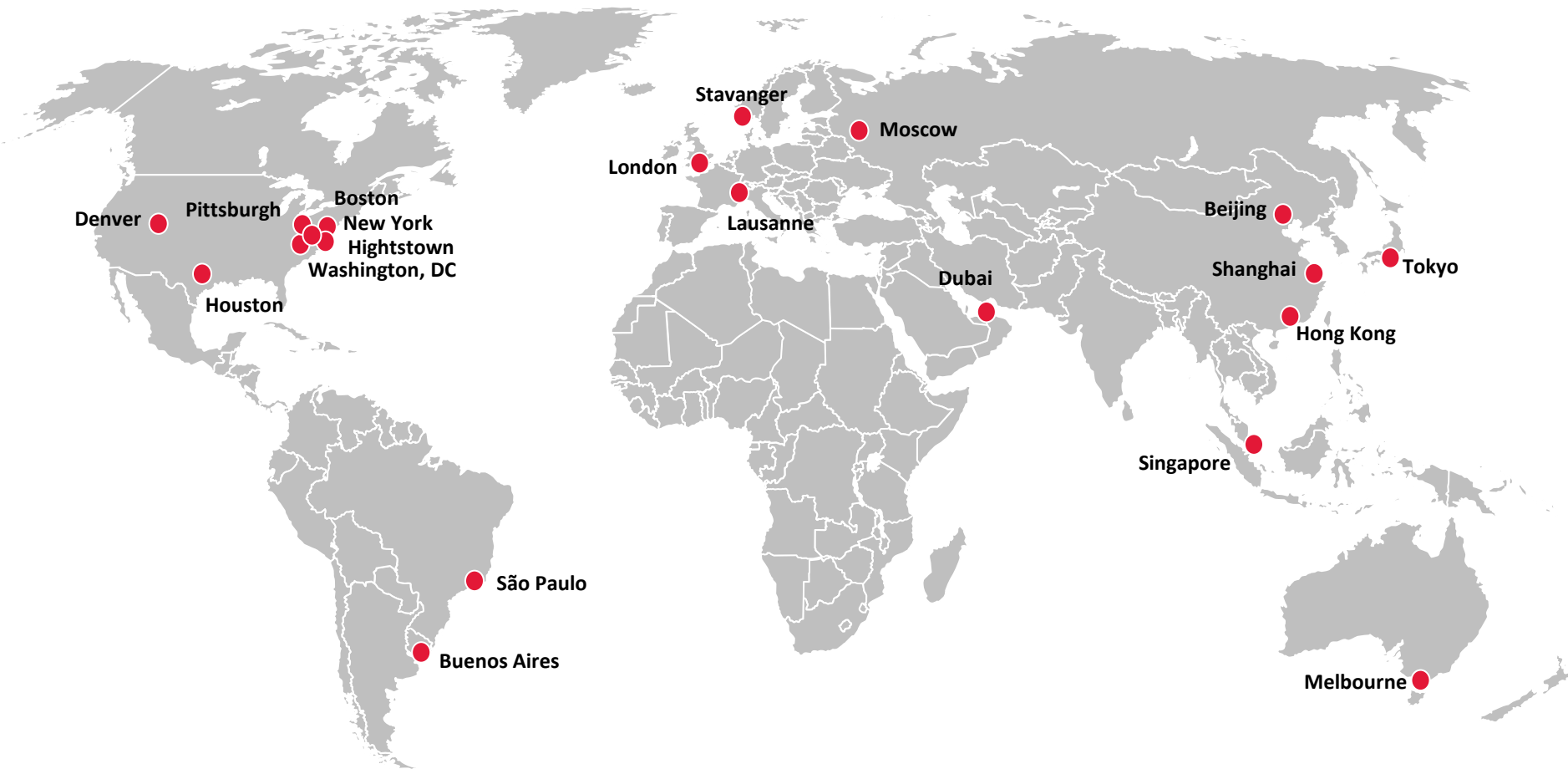


**Eclipse Energy Group**

Platts acquired Eclipse Energy Group, a London-based provider of data and analysis on the European gas, power and LNG markets in mid July

# Global Network of Offices and Staff

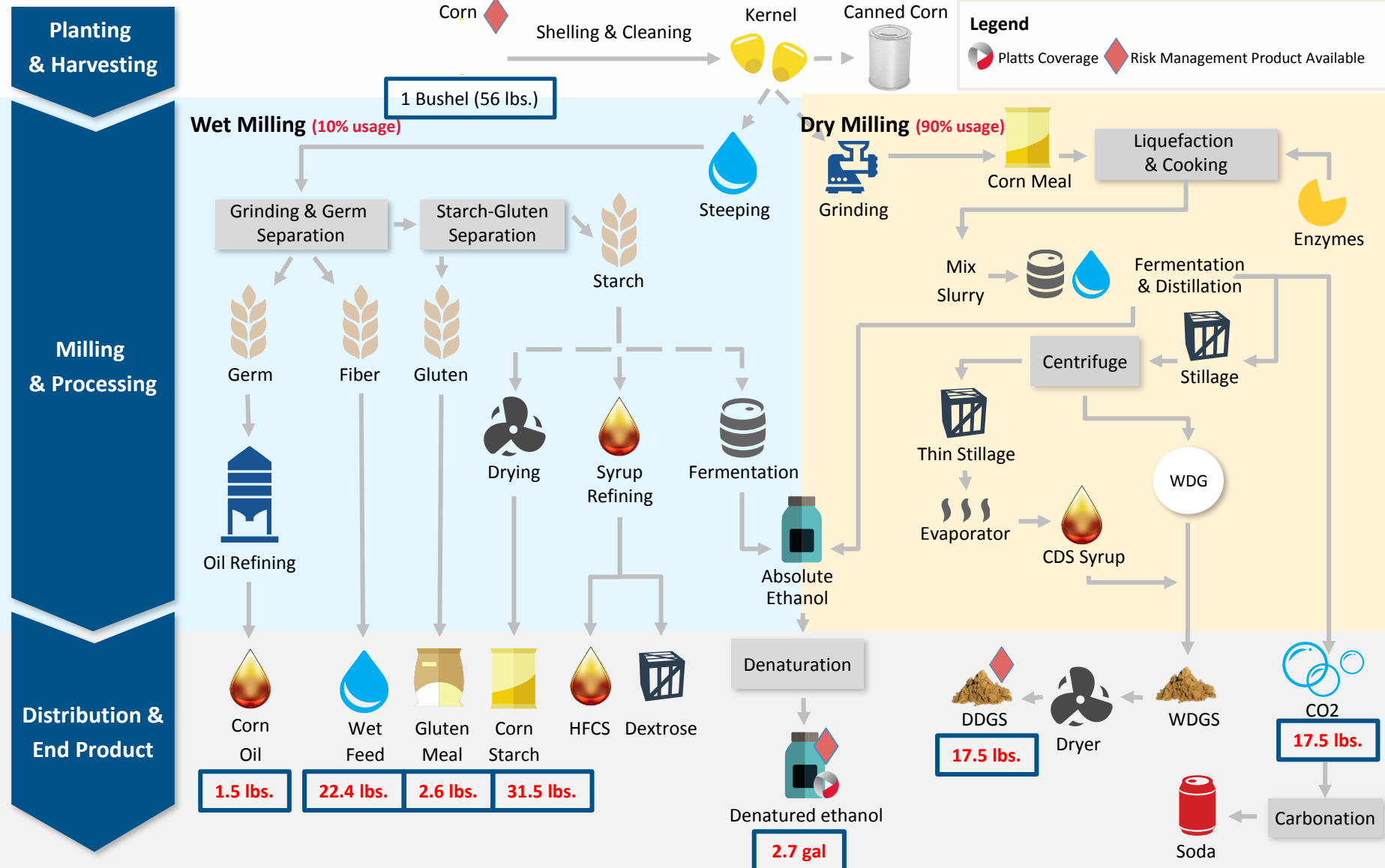
More than 1,000 employees work in offices located in top business cities and commodities trading centers on five continents.





DDGS

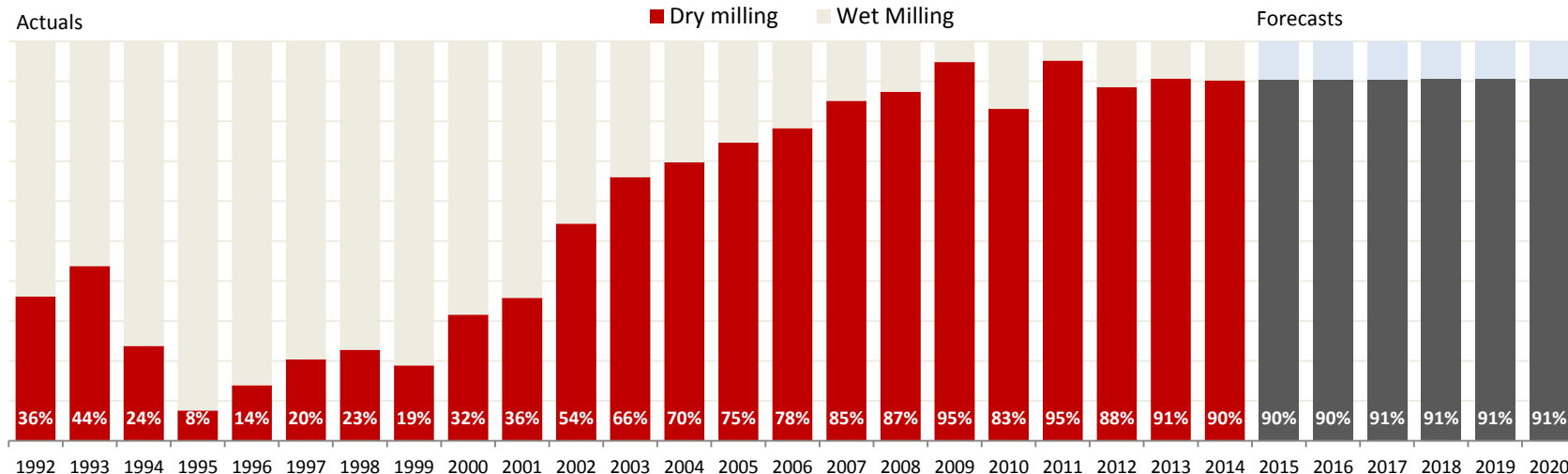
# The Dry Milling Process



Source: Compiled Sources from Ethanol Producers & Sapient Resources

# DDGS: The optimal grain

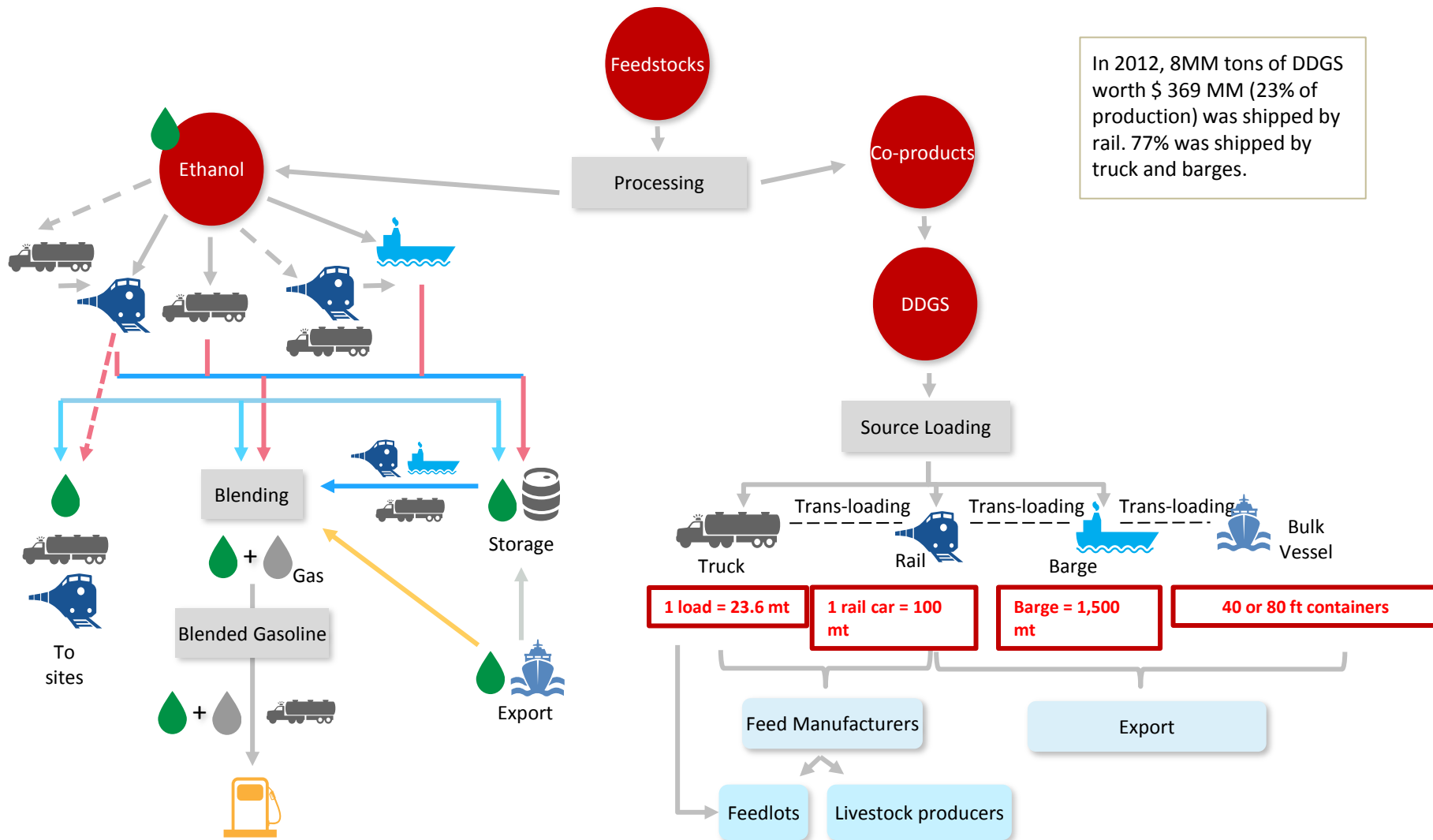
## Dry milling vs Wet Milling Utilization in Ethanol Production



Distiller Grains Types					
Characteristic	CDS	WDG	MDG	DDG	DDGS (DDG+CDS)
Dry matter, %	30-50%	25-35%	50%	88-90%	88-90%
Moisture level, %	50-70%	65-75%	50%	10-12%	10-12%
Crude Protein, %	20-30%	30-35%	30-35%	25-35%	25-35%
Fat, %	9-15%	8-12%	8-12%	8-10%	8-10%
Shelf Life	Less than 1 week	Less than 1 week	Less than 3 weeks	3+ Months	3+ Months
Cost to Transport	\$\$\$	\$\$\$	\$\$	\$	\$

Increasing product value (\$)

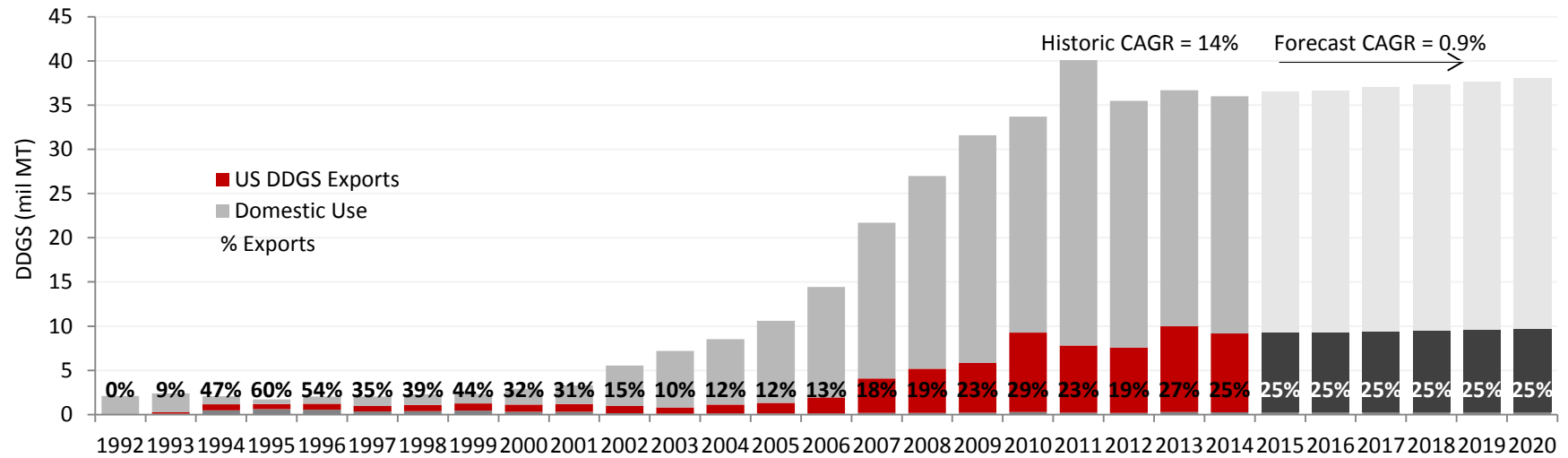
# Rail, barges actively trade



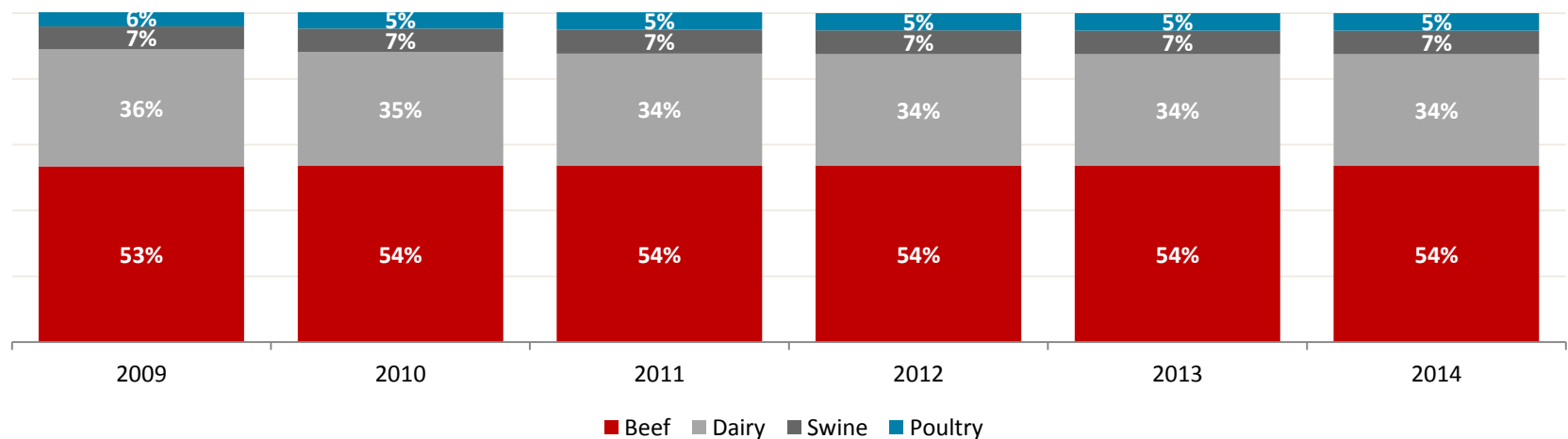
In 2012, 8MM tons of DDGS worth \$ 369 MM (23% of production) was shipped by rail. 77% was shipped by truck and barges.

# Prospects for growth

## United States DDGS Supply

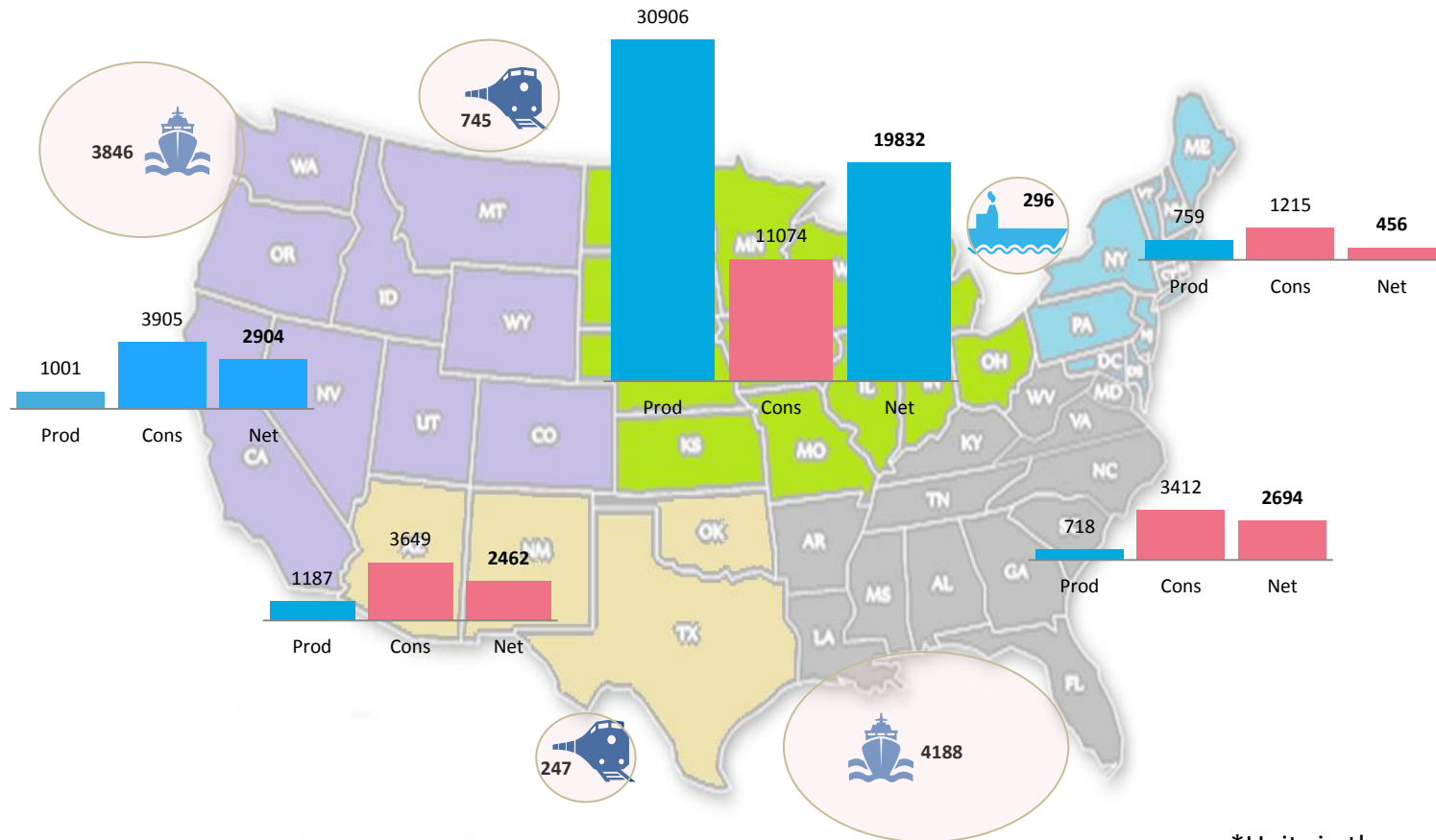


## US DDGS Animal Usage by Species



# Midwest the cradle of production

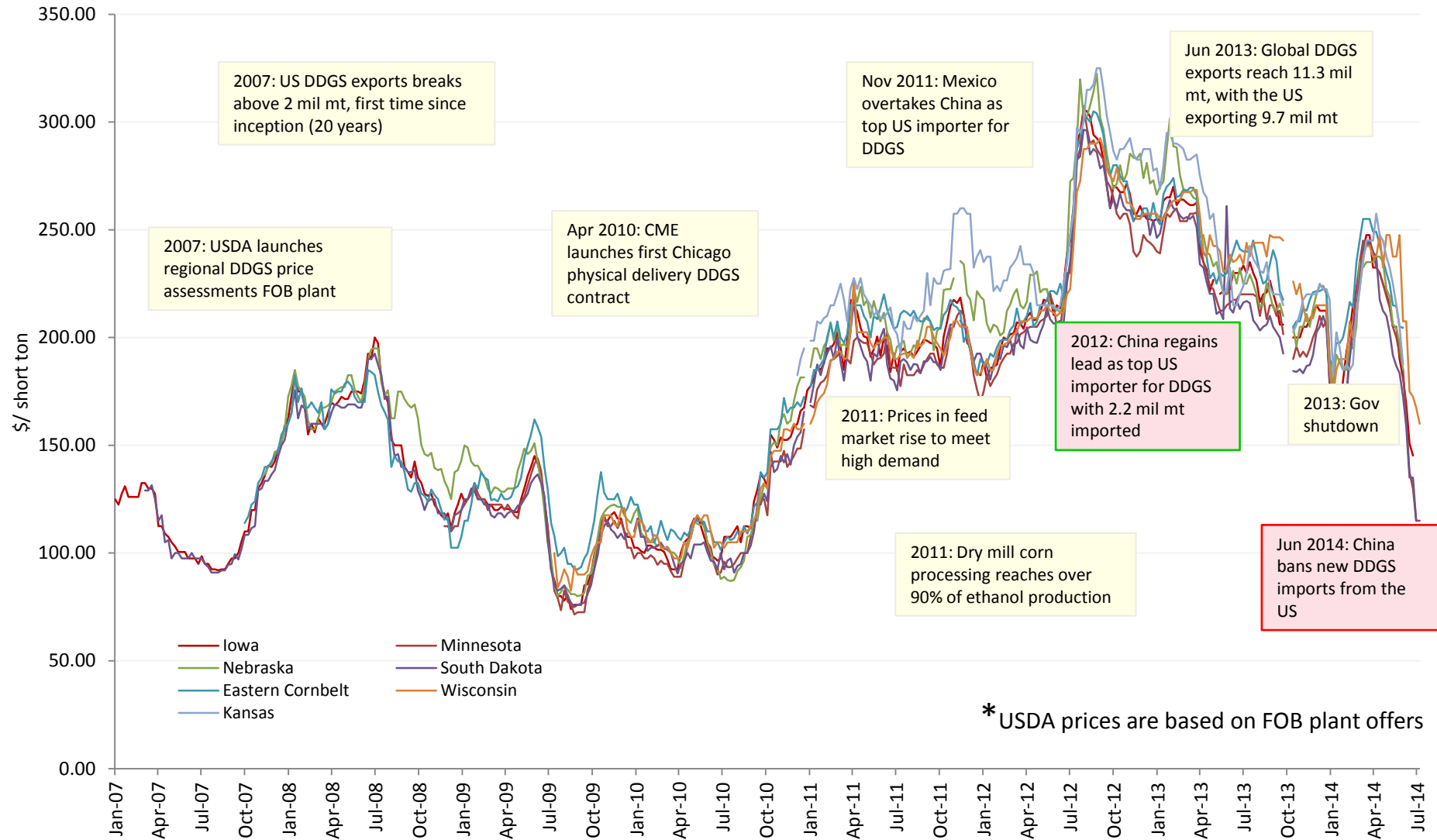
Production & Consumption of DDGS by US Region (2013)



\*Units in thousands mt

# Pricing volatility

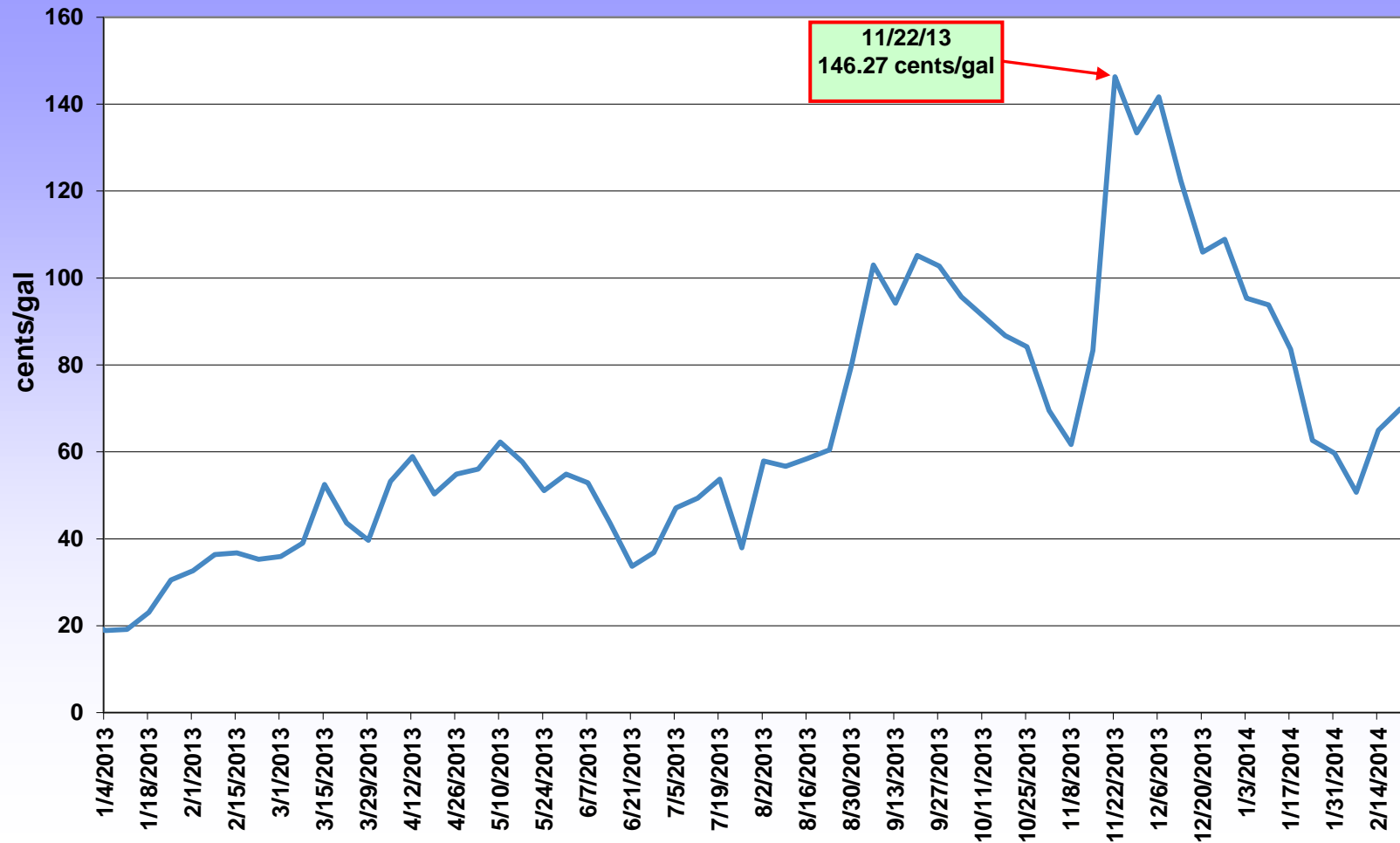
## USDA DDGS Prices for Selected Regions



# Charting the margin

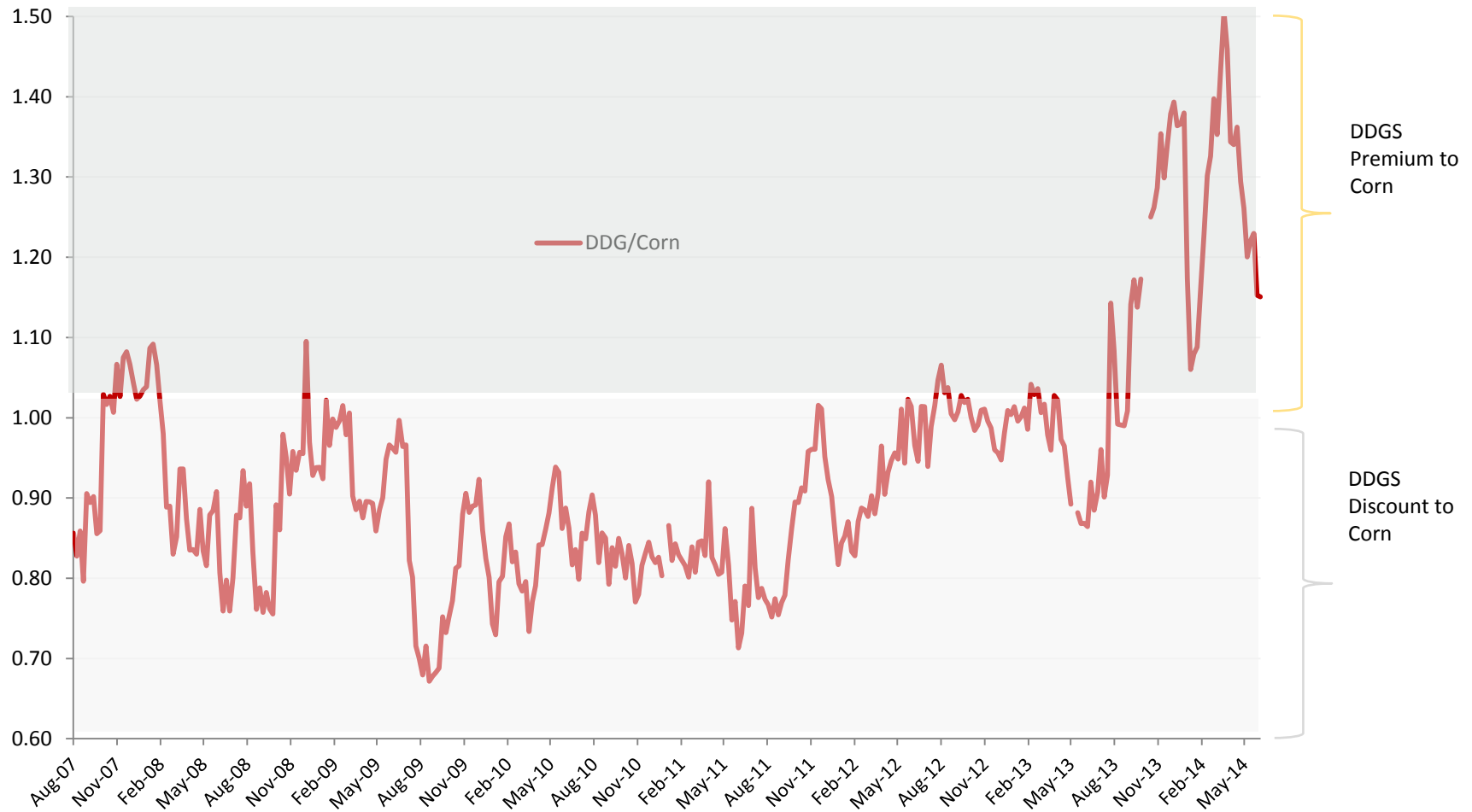
## Platts US Midwest Ethanol Production Margin Index

Source: USDA, Platts



# Impact on margins

Iowa Weekly DDGS vs Iowa Corn Price



## DDGS Supply Drivers

- Ethanol production
- Changes to blending requirements as per the Renewable Fuel Standard for ethanol in transportation fuels)
- Ethanol margins
- Availability of corn for use in ethanol production
- Use of wet vs. dry milling methods for ethanol production
- Prices and demand of other ethanol co-products

## DDGS Supply Risks

- Transportation bottlenecks (availability of railcars, trucks, barges, vessels)
- Competition from other feed stocks used to make ethanol
- Perishability

## DDGS Demand Drivers

- Demand for DDGS as a viable ingredient in animal feed
- Level of adoption from buying community
- Demand from international buyers prompts exports vs. local demand
- Rations of DDGS in feed
- Availability and price of feed substitutes
- Ease of Transportability to buyer location
- Government policies
- Price discovery process

## DDGS Demand Risks





- Regionally lower demand for beef swine and poultry
- Changing tastes and preferences for feed ingredients
- Import restrictions from international buyers (e.g. Chinese import ban)






# Market Structure

# Other sources of price

## LEGEND:

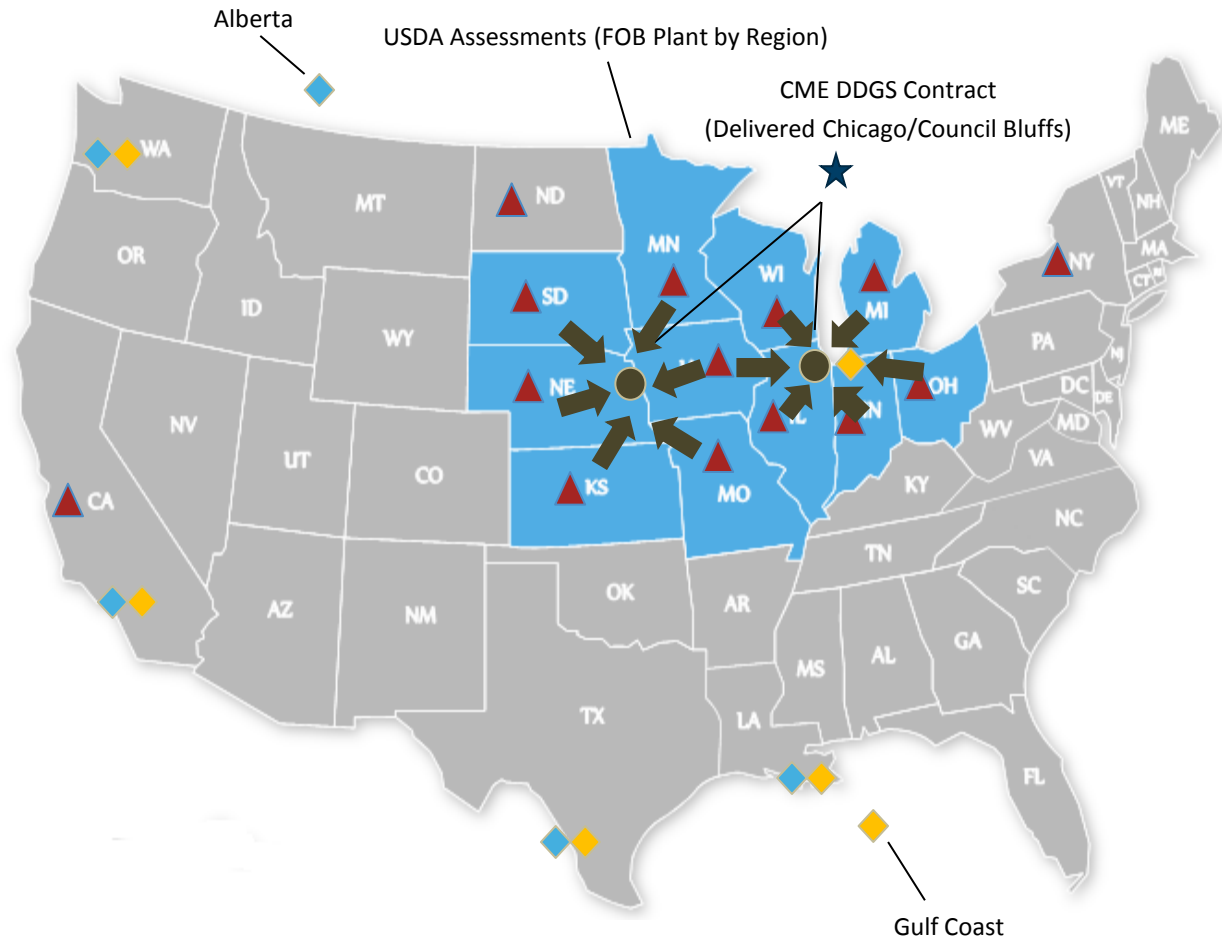
-  CIF Assessment (Export)
-  FOB Assessment
-  Paper Contract
-  CME Delivery Point

## Assessment Provider

	USDA
	US Grains Council/WPI
	DTN

## Notes:

- \*Assessments are on a delivered or FOB basis
- \*\*All assessments are based on offer indications only
- \*\*\*Terms of delivery, payment, and quality varies from one supplier to another



# Index trading not an option

	U.S. Production (2013 VOLUMES = 35 MMT)	
Trade Categories & Transaction Flow	DIRECT TRADE (Producer --- > End User)	
	TRADE THROUGH TRADING AND MARKETING COMPANY (Producer --- > Trader/Marketer --- > Buyer )	
Contract Types	SPOT	TERM
Tenor	Shipment within 15-30 days from the transaction date	Multiple shipments for up to 6 months
Delivery Location	FOB Ethanol Plant, CIF Buyer's Location, CIF Export Location	
Typical Transaction Size	25 Truck loads (500 mt); 10 Rail Car (1,000 mt); Barge (1,500 mt); Vessel: 40 or 80 ft containers (500 mt – 1,000 mt)	Variable
Pricing	Fixed price (non-indexed)	Fixed price (non-indexed)
Price Discovery Mechanisms	Formula Driven based on : 1) Plant's Corn Crush Spread, fixed costs and transportation 2) Protein and fat content 3) Competing values of other feeds 4) Forward and cash pricing for corn and ethanol (e.g. USDA, CME)	
Peer to Peer or Brokered	Both	
Transportation options	Truck, Rail, Barge to Buyer's Location. Oceangoing bulk or container vessel for overseas shipments	

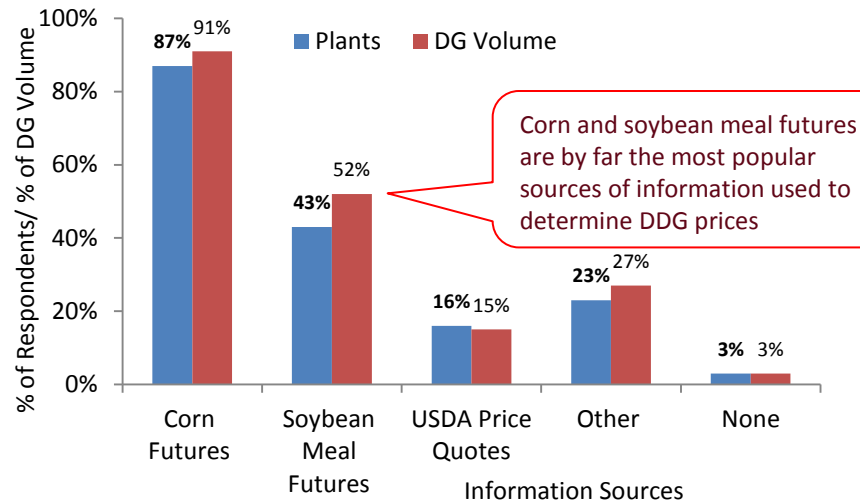
- Volatility and substitutability create a need for risk management
- A study has shown that participants use composite cross hedging strategy using corn and soybean meal futures contracts.
- On April 26, 2010, the CME introduced a DDG contract designed to be substitute to alternative price-hedging instruments.
- It failed to gain traction and has become inactive shortly after its introduction.

Some reasons we researched include:

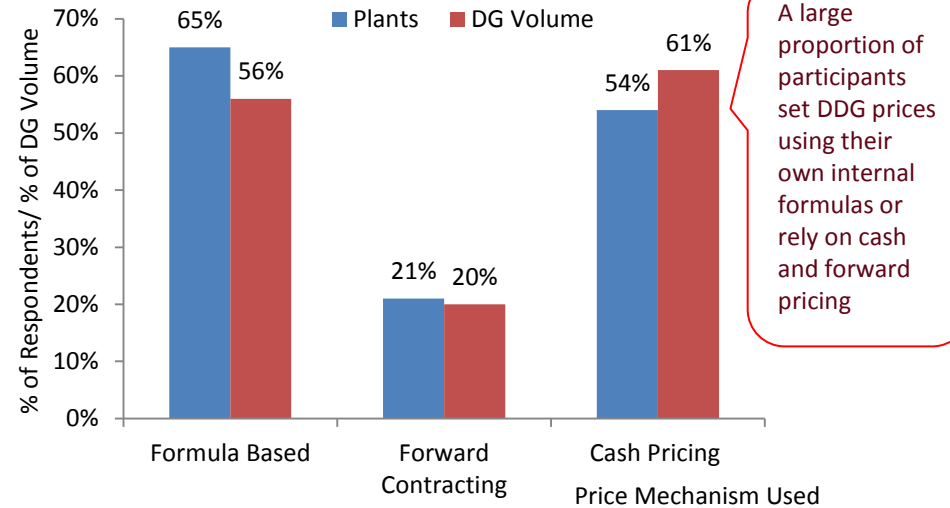
- Unsuitable delivery locations (i.e. rail junctions) for transport from seller to buyer.
- Less demand and awareness from the buyer community on risk management.
- High liquidity of cross-hedge futures contracts.

# Surveying the market

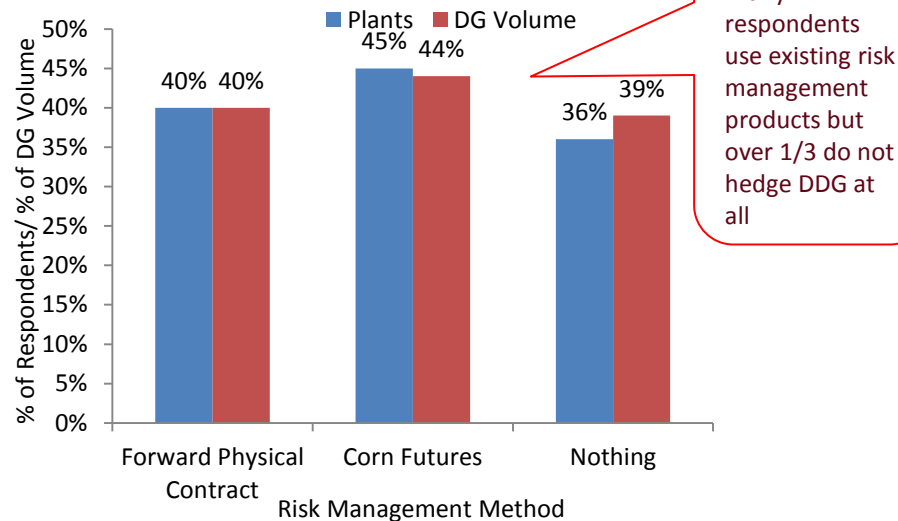
**Pricing Information Sources used by DG Producers and by Overall Production Volume**



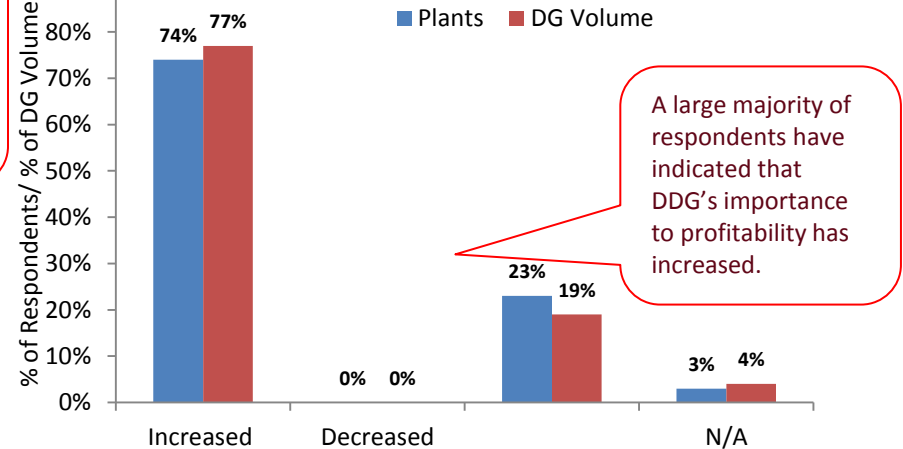
**Price Discovery Mechanisms**



**Risk Management Methods**

















**Responses to "Has the importance of DG to the profitability of the plant increased, decreased, or stayed the same over the last three years?"**



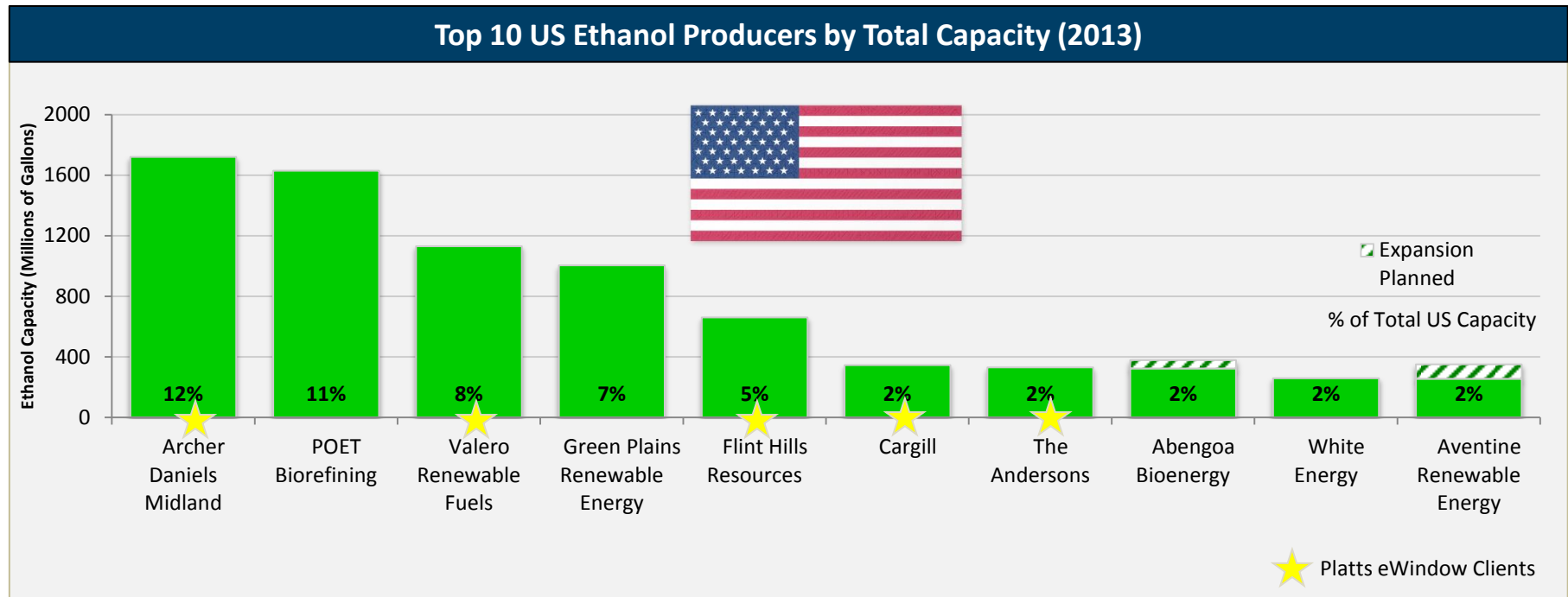


# Market Participants

# A many splintered thing

Client segment	Estimated Count	Customer Examples	Logo
Ethanol Producer	~ 200 plants	Operate ethanol plants as their core business or part of a broader mix of petroleum and renewables production and refining assets. They may also aggregate, market and distribute ethanol for third party ethanol producers. They may also be vertically integrated and own the transportation infrastructure and downstream production and processing of DDGs.	 
Marketers and Trading Companies	~25	Entities that have marketing agreements with ethanol producers to market production both domestically and internationally. Provide a variety of services includes transportation and logistics by truck, rail, barge, and vessel. May own or operate ethanol plants and own transportation infrastructure. Aggregate demand and enhance liquidity.	   
<u>Buyers Categories</u> • Feedlots • Feed mills • Livestock producers • Importers	~87,000 ~ 5250 ~ 965,000 (cattle only) 5 major importing countries	A <b>feedlot</b> is a type of animal feeding operation (AFO) which is used in factory farming for finishing livestock, notably beef cattle, but also swine, horses, sheep, turkeys, chickens or ducks, prior to slaughter. Large beef feedlots are called concentrated animal feeding operations (CAFOs) in the U.S. and intensive livestock operations (ILOs) or confined feeding operations (CFOs) in Canada. Feed manufacturers use raw materials such as DDGS, cereals, cereal by-products, proteins co-products from human food manufacture, minerals, vitamins and feed additives.	  
Brokers	~ 20	Match buyer and seller of DDGS. Do not take title . Some also provide risk management services and consulting services . Execute futures and options orders for listed markets on behalf of clients. Aggregate demand and enhance liquidity.	 
Government Agencies	<5	is a permanent or semi-permanent organization in the machinery of government that is responsible for the oversight and administration of specific functions	
Industry Groups	<5	is an organization founded and funded by businesses that operate in a specific industry. Participates in public relations activities such as advertising, education, political donations, lobbying and publishing, but its main focus is collaboration between companies.	 

Source: Industry profiles



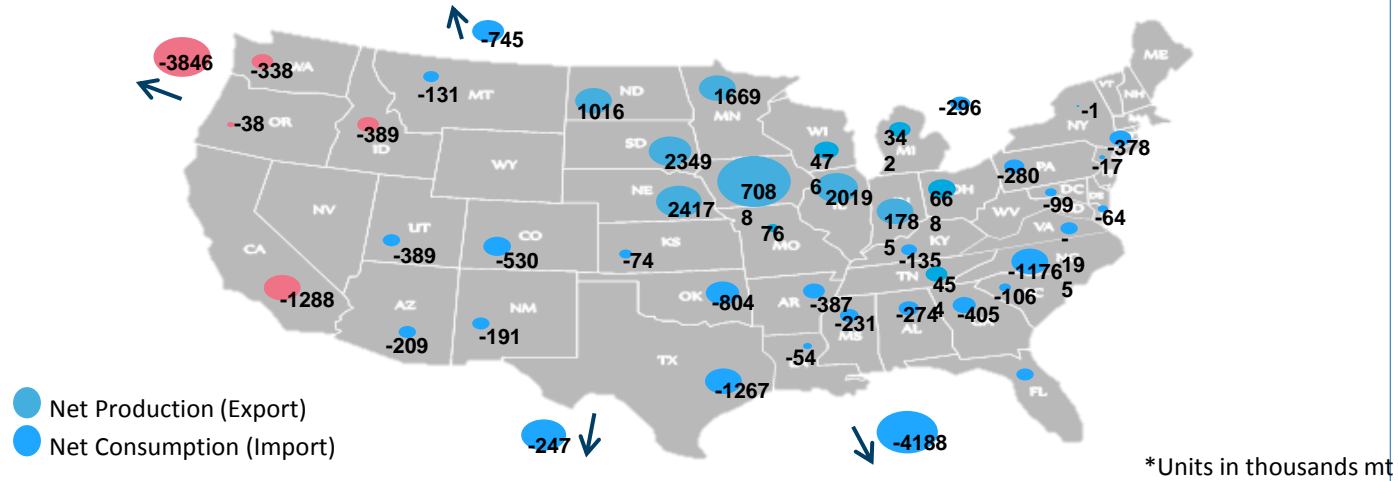
- Top 5 US Ethanol account for 43% of total US ethanol capacity
- US Ethanol Plants run at or near full capacity



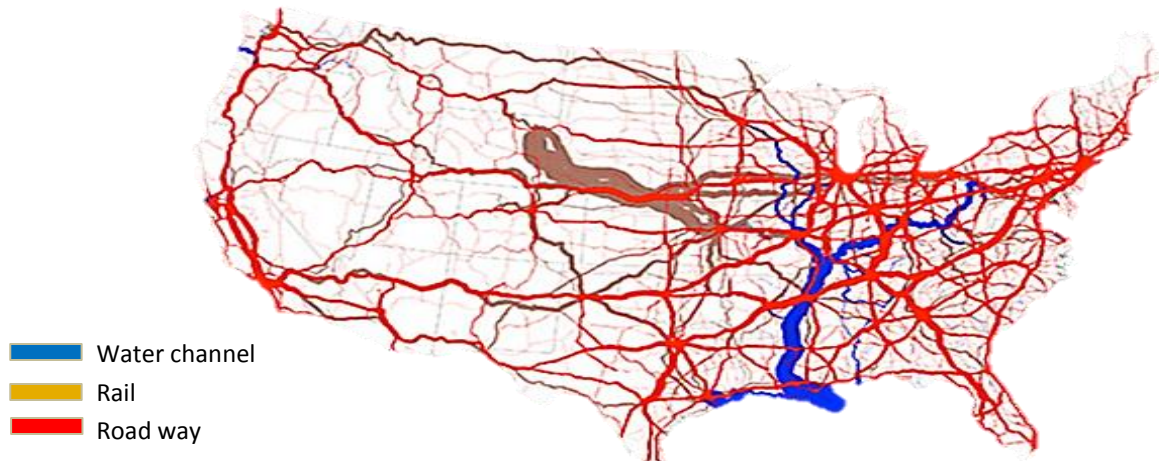
Market Data

# The distribution network

Net Import/Exports by State & Export Centers (2013)



US Transportation Routes by Volume (2007)

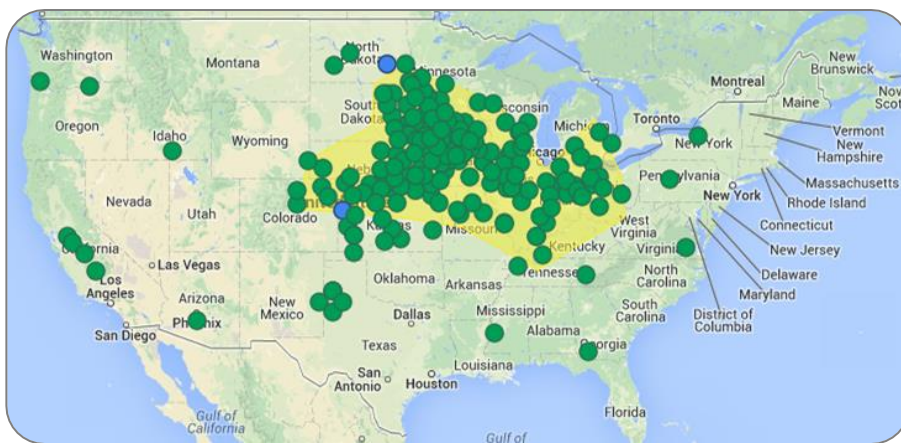


# Ethanol Map, Ethanol + Corn Production and Evolution of Corn Usage by output

US Ethanol Plants Map

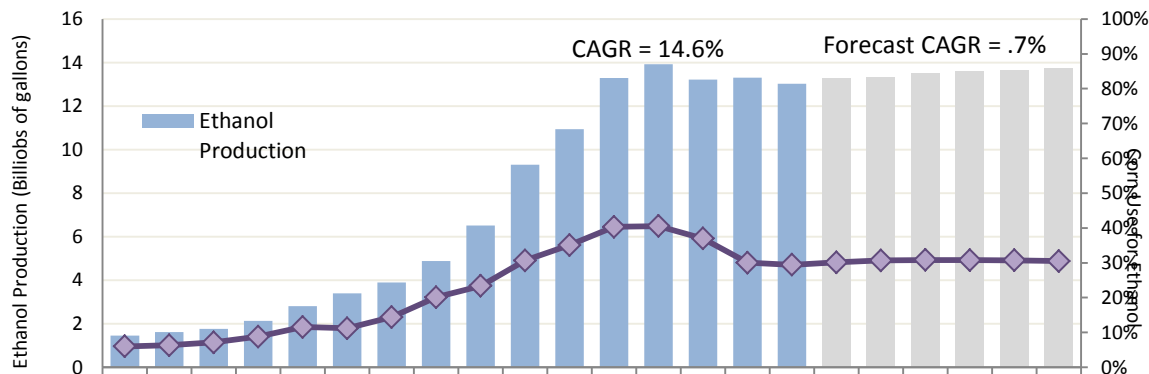
## Legend

- Plant Location
- Under Construction
- Corn Belt



Nearly 200 operating plants churned out an estimated 13.3 billion gallons of ethanol in 2013, up slightly from 2012 and rivaling 2010 for the second-highest annual output of all time.

Most of the production is concentrated in the corn belt – namely Iowa, Nebraska, Illinois, Indiana, Minnesota and South Dakota.

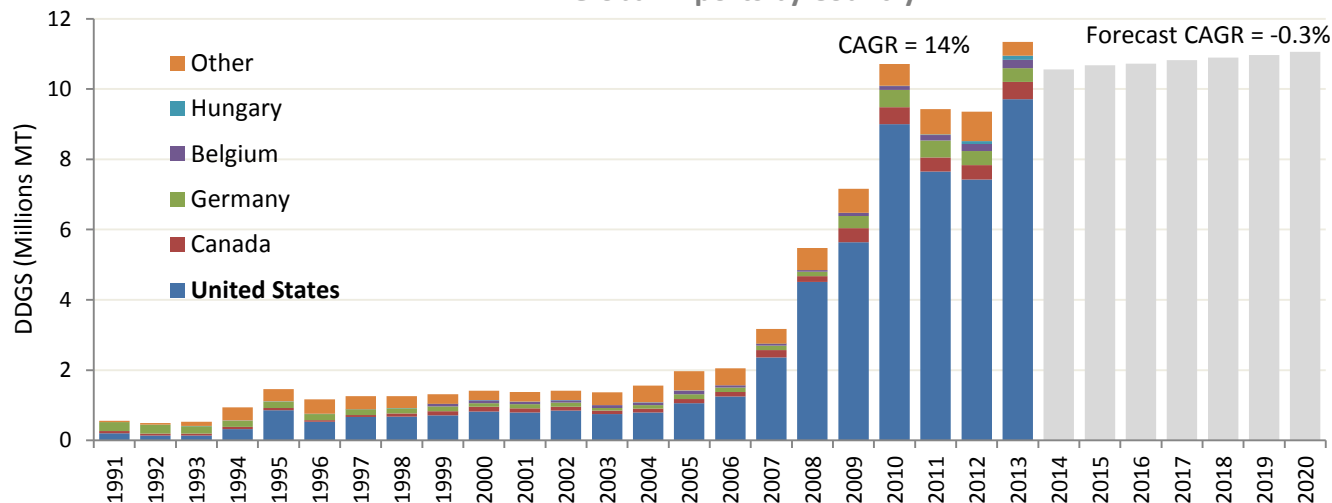


Ethanol Production	1.47	1.62	1.77	2.14	2.81	3.4	3.9	4.88	6.52	9.31	10.9	13.3	13.9	13.2	13.3	13	13.3	13.3	13.5	13.6	13.6	13.7
Plants	55	60	61	74	79	87	97	126	186	200	194	204	214	211	213	217	0	0	0	0	0	0
Corn Usage for Ethanol	6%	6%	7%	9%	12%	11%	14%	20%	23%	31%	35%	40%	41%	37%	30%	29%	30%	31%	31%	31%	31%	30%

A Renewable Fuel Standard (RFS) requirement for 13.8 billion gallons, attractive blending economics, a record corn crop and lower corn prices, and robust export demand all played important roles in painting the ethanol demand and production picture in 2013.

# Imports and exports

## Global Exports by Country

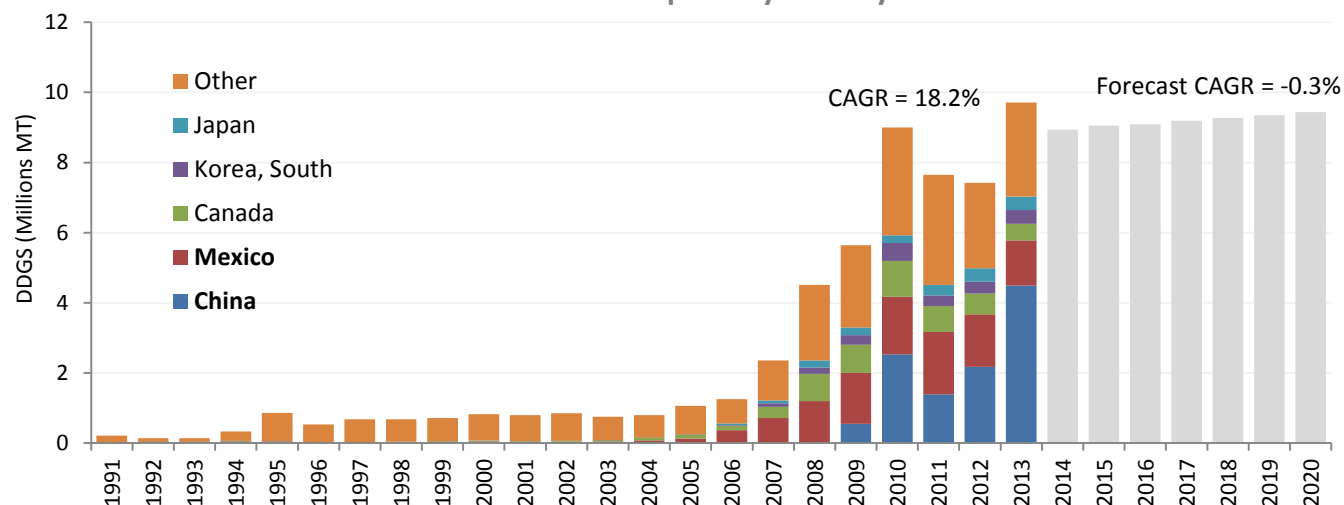


Global exports of DDGS have rapidly grown after breaking 2 mil metric tonnes exported in 2007.

The US has historically been the world leader in DDGS exports and accounted for over 85% of global market exports in 2013.

- The top 5 major exporters take over 95% of global DDGS export market share

## US Exports by Country



US DDGS exports have substantially risen following the expansion of domestic ethanol production in 2007.

- The top 5 US export partners accounted for about 73% of US DDGS exports in 2013
- Chinese imports of US DDGS accounted for 46% of shipments
- Mexico has also been a major trade partner for DDGS and had been the largest importer for certain past years

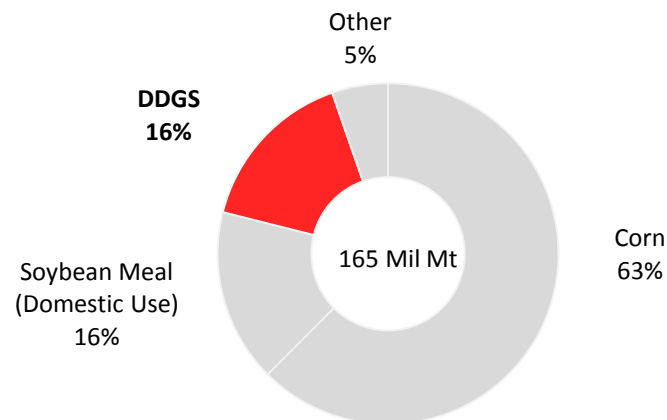
# Buyer Profiles – Feed Mills and Feedlots

## Feed Mill Profile

Feed mills/manufacturers are important players in the buyers market that will blend feedstuffs into specific formulated rations. They will also store and sell straight DDGS to end-users and profit the difference from FOB plant prices.

- 65.75% of DDGS produced in 2011 went into US feed mill production
- The top 10 global feed mills represent 14% of global feed production
- The top feed producers are heavily concentrated in Asia and in the US

Raw Materials Used in US Feed (2011)



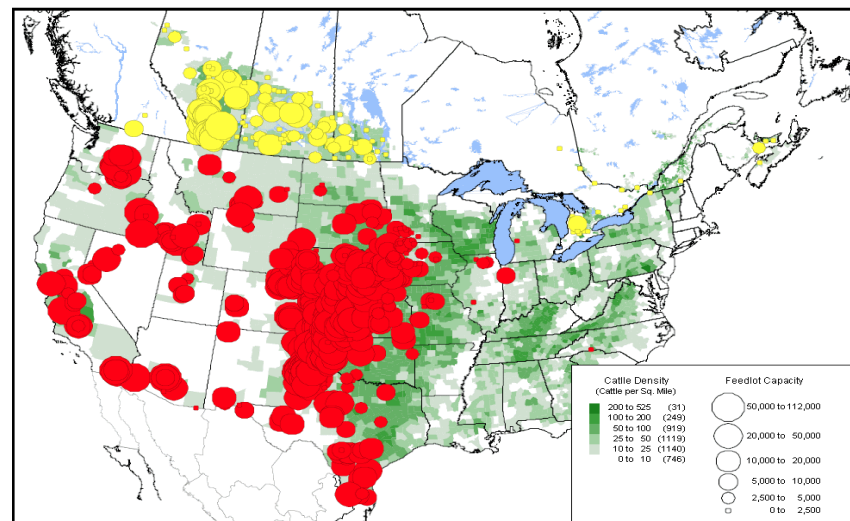
## Feedlots Profile

Large feedlots are important end-users in the buyer's market that will buy DDGS in bulk volumes.

Cattle and swine feedlots that use feed over free-range pasture methods are going to be the biggest end-users as the vast majority of DDGS is consumed by these species.

- The top 10 US feedlots by capacity represent about 3% of the total market share
- The largest feedlots are heavily concentrated in the Midwest
- DDGS can also be transported to large Canadian feedlots (yellow) concentrated on the Northwestern US border

North America Feedlots by Capacity and Cattle Density (2007)





# Platts Perspective

## Vision

To be the leading provider of benchmarks and analytics in the global commodity markets

## Mission

Promote sustainable growth by bringing transparency and independent insights to the global commodity markets

## Core Values

**Fairness:** The highest standards of fairness and impartiality with our customers, partners and colleagues

**Integrity:** The highest standards of integrity and honesty in all of our dealings

**Transparency:** Transparency in our products and services and bringing transparency to the capital and commodity markets

## **What is a price assessment?**

Platts uses “price assessment” to refer to the market value it publishes for specific commodities or baskets of commodities

## **How does Platts develop its price assessments?**

Through the collection and analysis of trading data obtained from participants in the physical spot markets

## **How many price assessments does Platts publish?**

Platts publishes thousands of daily prices to support the physical commodity market flows and the world’s supply chains

## **How does Platts determine the value of its price assessments?**

At the end of the physical market trading day, Platts editors analyze the market data collected (i.e. bids, offers and trades) with respect to Platts’ methodology guidelines, then publish price assessments quoted as a low-high range or a single value

- Unlike equities and future contracts, physical commodities are not homogenous, i.e.:
  - There are hundreds of different grades and attributes for each commodity
  - There are no standard parameters for quality, delivery, timing, location and lot size
- Platts establishes standards that give market participants a common understanding of a commodity's attributes and allow them to make comparisons
- By standardizing and providing an assessed value for a particular commodity, Platts' price assessments provide reference point for buyers and sellers.

## Proposal – DDGS Chicago

### Rail

**Quality:** Price assessments reflect export quality DDGS with a protein content in the range of 25% to 35%, standardized to 27.3% minimum, color 2, fat minimum 8%, moisture level in the range of 10% to 12%, standardized to 11.5%.

**Quantity:** Railcar assessments reflect cars of 100 metric tons

**Location:** Chicago, Channahon

**Timing:** Delivery next week shipment

## Proposal – DDGS New Orleans

### River

**Quality:** Price assessments reflect export quality DDGS with a protein content in the range of 25% to 35%, standardized to 27.3% minimum, color 2, fat minimum 8%, moisture level in the range of 10% to 12%, standardized to 11.5%.

**Quantity:** Barge assessments reflect sizes of 1,360 mt (1,500 short tons) plus or minus 10%. Other sizes may be considered but normalized to reflect that standard.

**Location:** New Orleans

**Timing:** Delivery next month shipment

# Thank you for your attention

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