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Hawkeye: Leading an Energy Revolution

Iowa Ethanol production

- There are currently 28 ethanol plants in Iowa producing 2.2 billion gallons of ethanol annually
- There are 14 ethanol plants under construction in Iowa that will produce 1.4 billion gallons of ethanol annually
- There are numerous other plants being talked about not yet officially recorded

- With the 28 current ethanol plants in production, this equates to about 6.1 mmt of DDGS production annually.
- With the 14 plants expected to come into production over the next few years, this equates to about 3.9 mmt of DDGS production

(using a yield of 2.75 gallons per bushel and 17 lbs of DDGS per bushel)

So over the next couple years, Iowa stands a good chance of nearly doubling its current capacity both in ethanol and DDGS production.

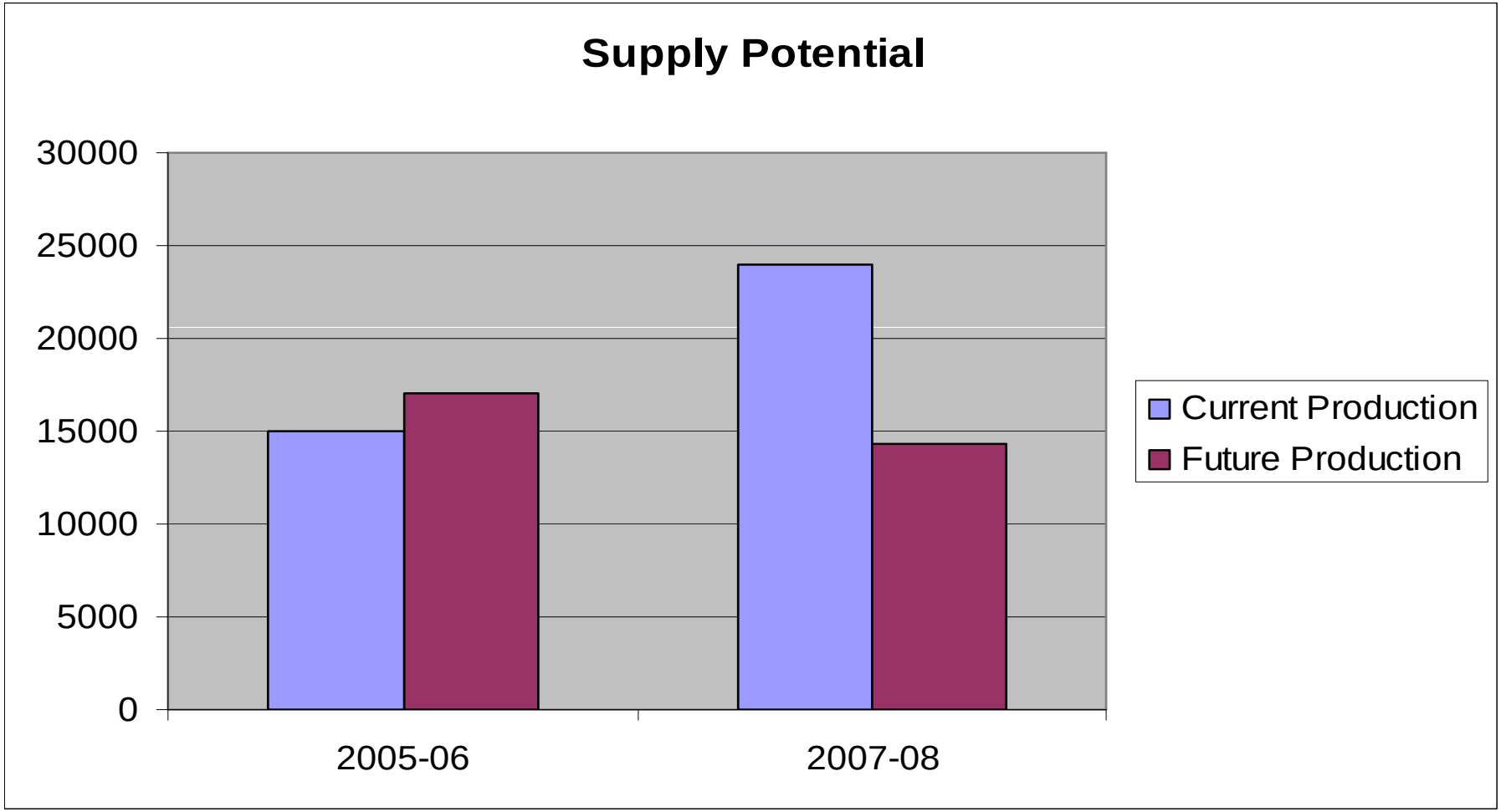
National Ethanol production

- There are currently 147 ethanol plants producing 8.6 billion gallons of ethanol annually.
- There are 48 new plants under construction and 7 plants in expansion expected to produce 5.1 billion gallons of ethanol annually.

- The 147 plants in production equates to 24.1 mmt of current DDGS production
- The plants under construction/expansion equates to almost 13.8 mmt of added production
- Total DDGS production has the potential to reach about 38 mmt.

(using a yield of 2.75 gallons per bushel and 17 lbs of DDGS

U.S. DDGS Supply Analysis



Current Production: 147 plants producing 8.522 bln gallons and consuming 3.1 bln bu of corn (using 2.75 yield)

Future Production: 55 plants will produce 5.1 bln gallons and consume 1.8 bln bu of corn (using 2.75 yield)

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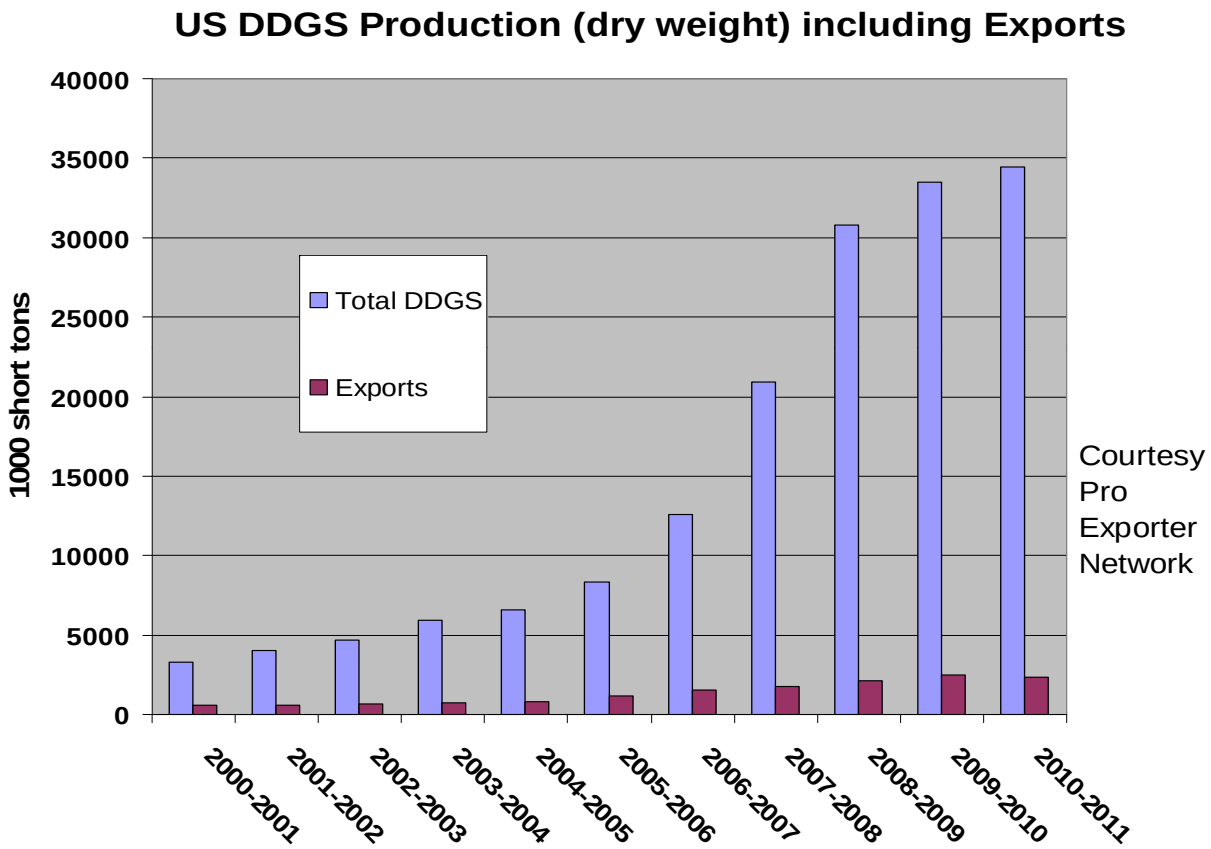
Source: Renewable Fuels Association

Future Supply



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Demand Side Inclusion rate assumptions

- **Inclusion rate assumptions come from Dr. Harold Tilstra with Land 'O Lakes feeds**
  - Feedlot Cattle– 40%
  - Beef Cows- 30%
  - Dairy- 10%
  - Finisher Pigs, Breeding Sows- 10%
  - Poultry- 10%
- **Above inclusion rates are considered industry standard**

Demand Potential

- **Poultry**
  - Broilers – 4.044 mmt
  - Turkeys – .247 mmt
  - Layers – 1.356 mmt

  Total 5.64 mmt

  Swine
  - Slaughter - 2.729 mmt
  - Breeding - .417 mmt

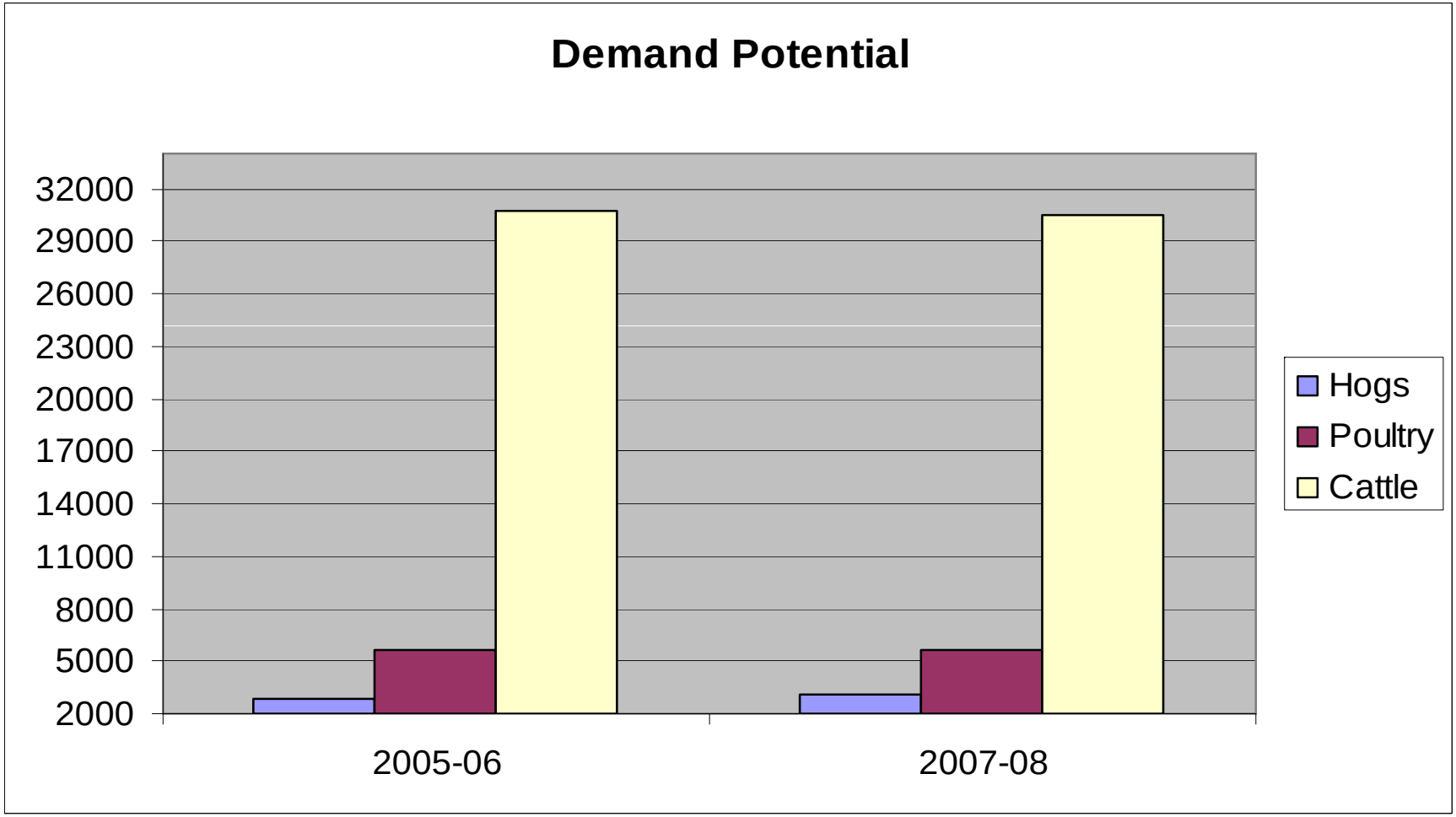
  Total 3.146 mmt

- **Cattle**
  - Dairy - 5.867 mmt
  - Fed Cattle - 15.682 mmt
  - Beef Cows - 8.891 mmt

  Total 30.440 mmt

Total Demand Potential (mmt) – 39.226 mmt

U.S. DDGS Supply/Demand Analysis



Poultry: (Broilers-8.9 bln consuming 1 lb DDGS) (Turkeys-543 mln consuming 2 lbs DDGS) (Layers-343 million consuming 8.7 lbs per year)

Swine: (Slaughter-109 mln consuming 55 lbs) (Breeding-6 mln consuming 150 lbs/yr)

Cattle: (Dairy-8.4 mln head consuming 4.2 lbs/day) (Cattle on Feed-26.1 mln head consuming 1320 lbs total) (Beef Cows-32.6 mln head consuming 600 lbs total)

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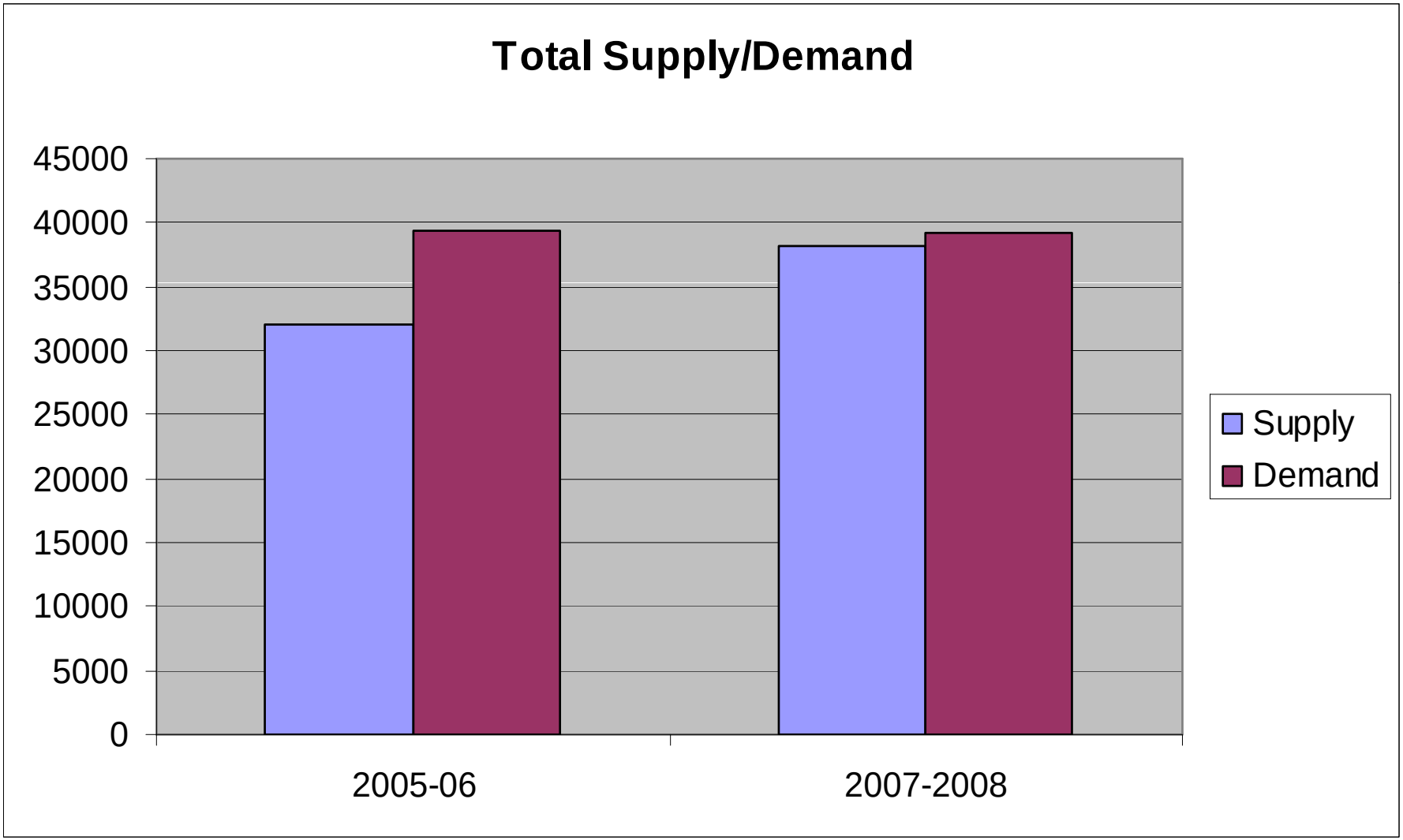
Source: USDA

Supply vs. Demand Summary

- **Total Potential Supply - ~38 mmt**
- **Total Potential Demand – 39.223 mmt**

U.S. DDGS Supply/Demand Analysis



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Domestic Market: USA

DEMAND

~90% (~14.5 million MT)

- **Beef & Dairy Cattle: ~75%**
- **Swine: ~20%**
- **Poultry: ~5%**

Source: Renewable Fuels Association

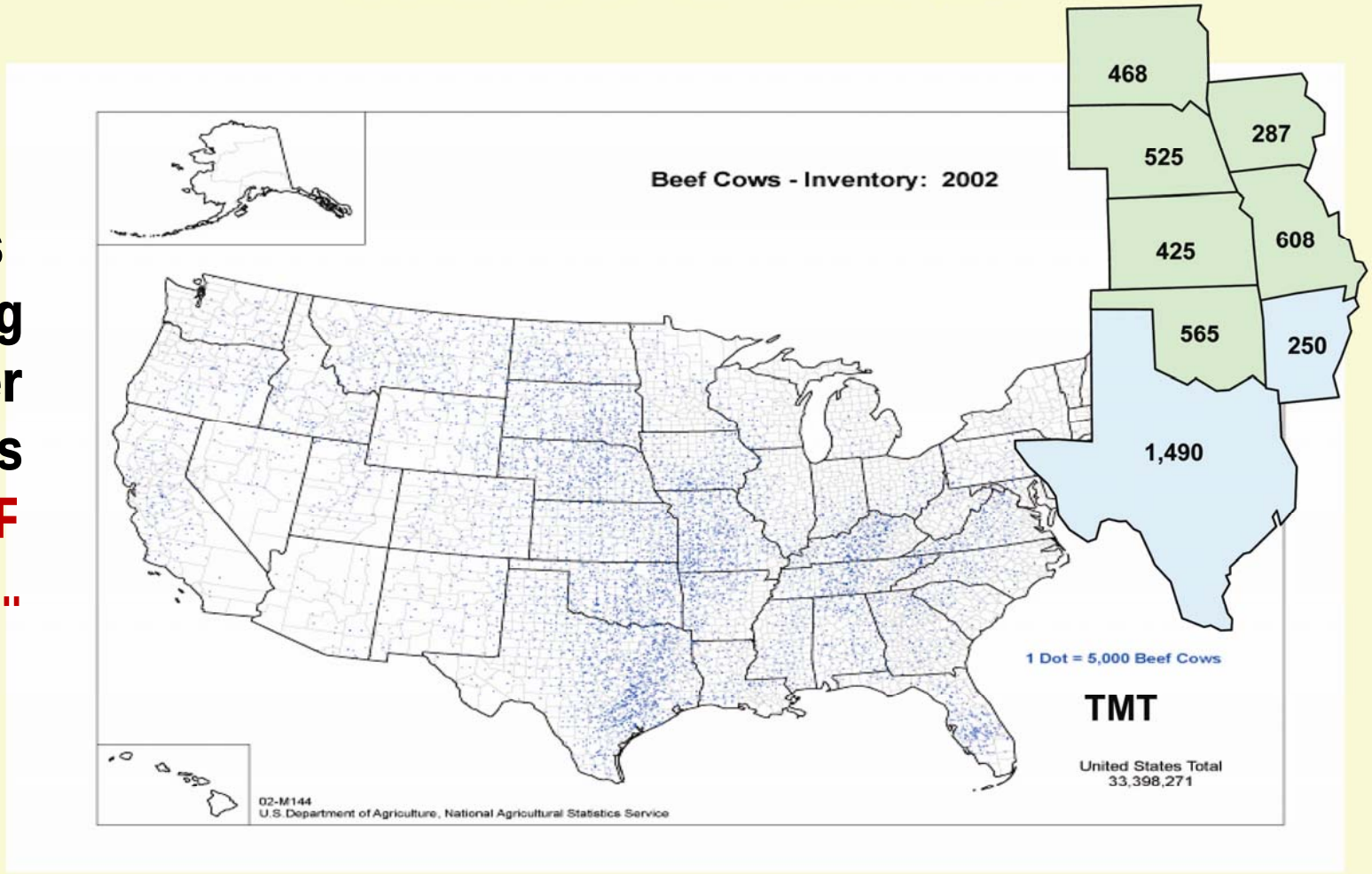
Hawkeye Renewables

Current U.S. Distillers Grains Usage

Top 8 States utilizing distiller s grains for BEEF CATTLE...

Beef Cow Concentration

Potential DDGS Demand – selected states



MID-CO COMMODITIES, Inc.

Source: USDA/NASS

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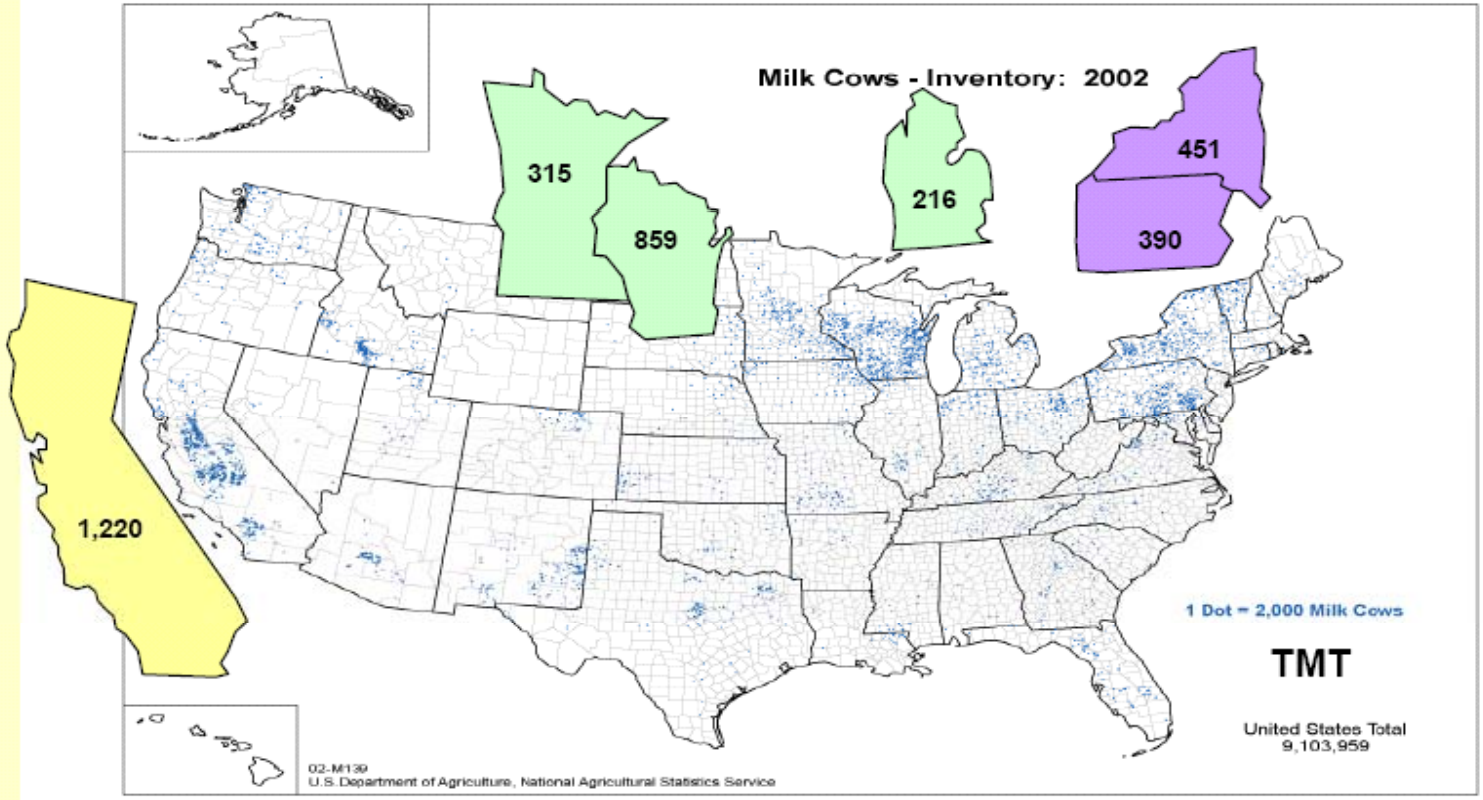
Current U.S. Distillers Grains Usage

Top 6 States utilizing distillers grains for Dairy CATTLE

Dairy Cow Concentration

Potential DDGS Demand- selected states



MID-CO COMMODITIES, Inc.

Source: USDA/NASS

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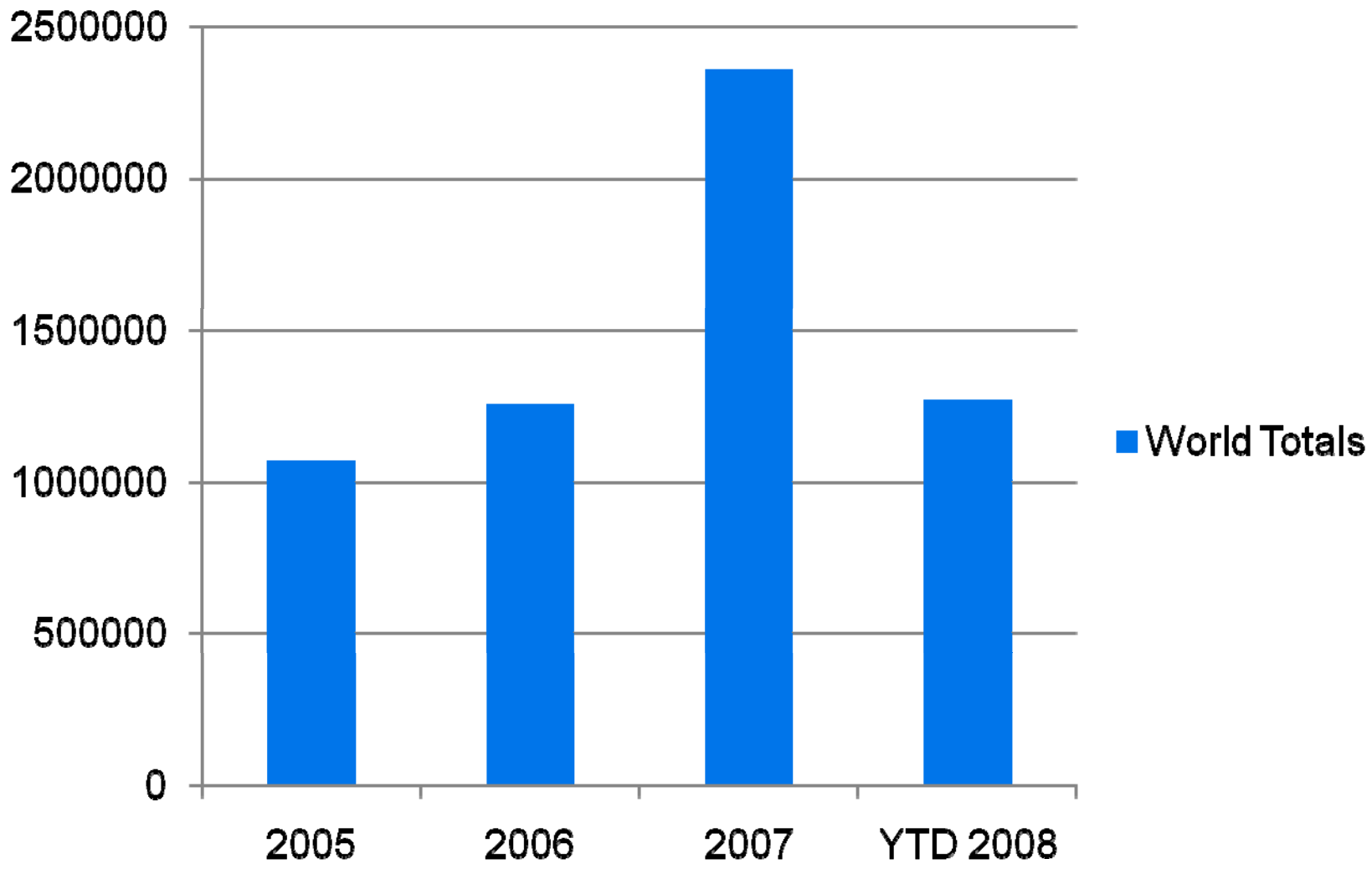
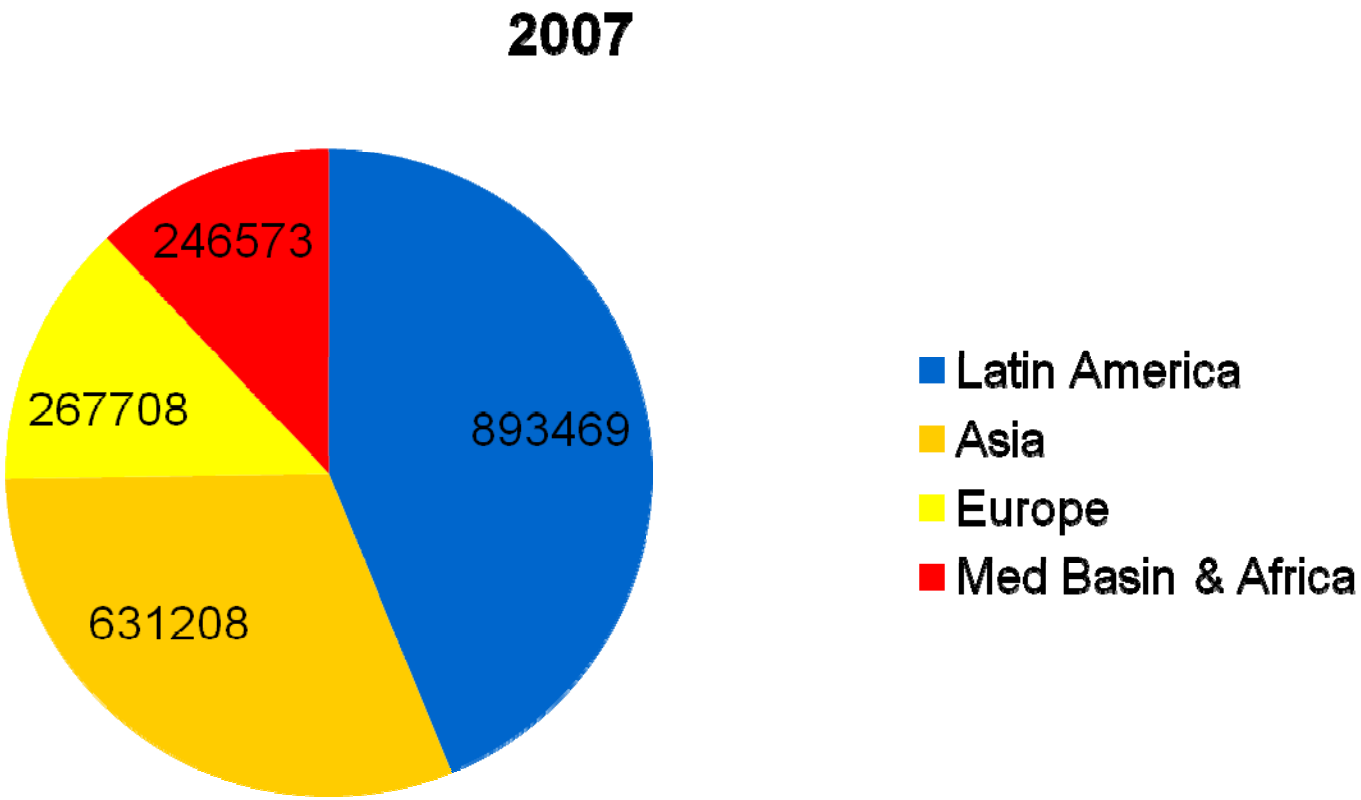
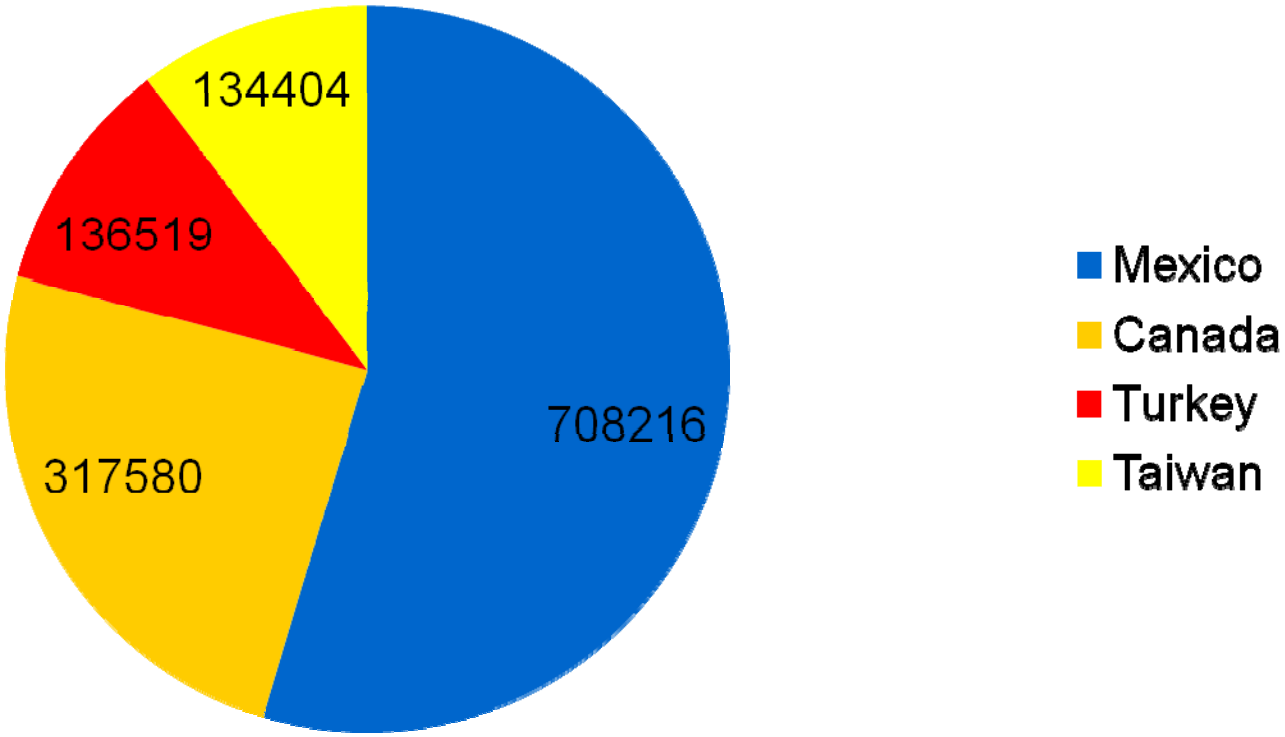
DDGS EXPORTS TO THE WORLD



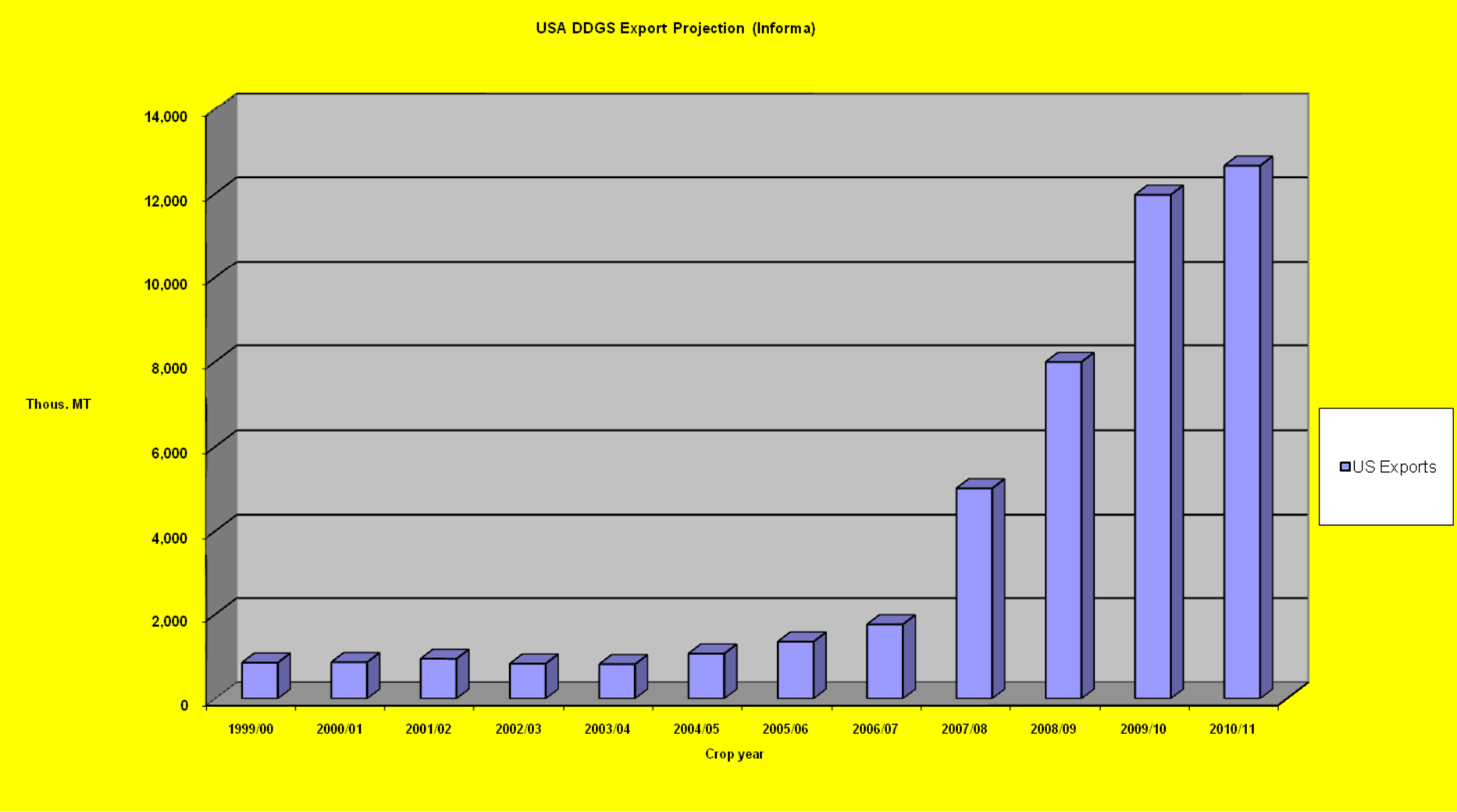
WHERE DO U.S. DDGS GO?



2007 TOP EXPORT MARKETS



Informa Economics 2007



Alternative DDGS Uses

- **Food use**

- **Fertilizer use**

- Current conversion of the protein, phosphorous, and potassium in DDGS converts to about a 4-1-1 for N-P-K values – which is low.

- **Fuel use**

- Studies show burning DDGS produces about 5,000 btu/lb
- Equals 10 mmbtu/ton or 3.2 mmbtu for a typical 100 million gallon facility
- At $8.50 mmbtu nat gas costs, equals $27,200,000 – equivalent of $85/ton DDGS.
- 100 million gallon facility uses about 3.4 mmbtu per year if drying all co products to DDGS
- Environmental costs??
- Initial equipment costs??
- Increases feed vs. fuel debate??

- **Other uses??**

Marketing DDGS – Opportunities with DDGS

Before we can truly realize all the potential demand across the US and around the world, we need to understand the opportunities with DDGS.

Opportunities

- **Lack of standardized testing**
- **No quality standard and inconsistent product**
- **Flowability problems**
- **Viewed as a by-product**

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Questions?