Supply and Demand of U.S. DDGS

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Ethanol Plants in North America - June 16, 2004
U.S. DDGS Production

Source: Steve Markham – Commodity Specialists Company
U.S. Ethanol Industry

- **2004**
  - 80 fuel ethanol plants
    - 3.640 billion gallons of ethanol
    - 6.928 million metric tonnes DDGS

- **2005**
  - 17 new ethanol plants will expand or start production
    - 4.394 billion gallons of ethanol
    - 8.363 million metric tonnes DDGS (17% increase)

- **2006**
  - DDGS production is expected to increase and additional 17-20%
DDGS Consumed by Domestic and Export Markets

- U.S Consumption: 86%
- Export: 14%
U.S. DDGS Consumption

Estimate 2001

- Dairy: 36%
- Beef: 4%
- Poultry/Swine: 60%

Estimate 2002

- Dairy: 45%
- Beef: 15%
- Poultry: 35%
- Swine: 5%

Estimate 2003

- Dairy: 46%
- Beef: 4%
- Poultry: 11%
- Swine: 39%

Estimate 2004

- Dairy: 44%
- Beef: 37%
- Poultry/Swine: 16%
## Major U.S. DDGS Importing Countries (84% of Total Exports)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>22.6%</td>
</tr>
<tr>
<td>UK</td>
<td>24.0%</td>
</tr>
<tr>
<td>Canada</td>
<td>11.0%</td>
</tr>
<tr>
<td>Spain</td>
<td>9.3%</td>
</tr>
<tr>
<td>Mexico</td>
<td>9.2%</td>
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<tr>
<td>Portugal</td>
<td>8.3%</td>
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</tbody>
</table>
Asian Countries Importing U.S. DDGS (4.5% of Total Exports)

- Malaysia
- Indonesia
- Taiwan
- Vietnam
- S. Korea
- Philippines
- China
- Thailand
- Japan
DDGS Exports

- Most countries are requesting containers
  - Difficulty in handling 5000 MT in large vessels
2005 DDGS Demand

Factors affecting demand:
- Soybean meal price
- Ocean freight costs

If export demand remains stable:
- U.S. livestock and poultry industry would need to consume an additional 1.285 million MT
  - Require an additional 685,300 dairy cows
    - Difficult to achieve
2005 DDGS Demand

- Beef feedlots must overcome freight costs from ethanol plants located outside of the SW U.S.
- U.S. swine industry offers the greatest potential for increased consumption
  - many of the new ethanol plants are located in areas of concentrated pig production
- Increased use in U.S. poultry and aquaculture industries, but quantity consumed/animal unit is significantly less than other species
DDGS Demand

- DDGS exports must increase
  - Saturation of U.S. DDGS markets
  - Rapidly increasing supply